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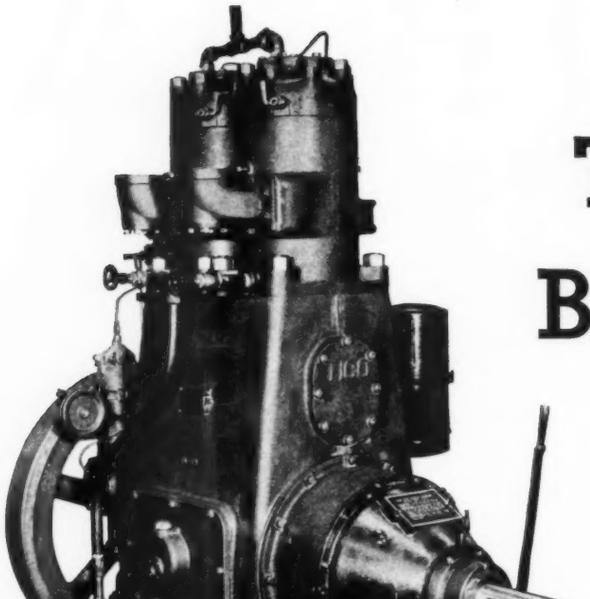
NEW "TICO" VERTICAL USES TIMKEN BEARINGS



Tapered Roller
TIMKEN BEARING
EQUIPPED

A symbol of quality for any piece of equipment with which it is associated

Again the Titusville Iron Works Company turns to Timken Bearings for dependable modern performance—this time on the crank shaft, layshaft, water pump, and governor of the new "TICO" 9" x 10" Vertical Twin Gas Engine (convertible to a 7½" x 10" full Diesel.) When operated as a Diesel, Timken Bearings are also used in the fuel pump drive.

One of the first oil field engine manufacturers to apply Timken Bearings to gas engine crank shafts, this company has also been one of the foremost in consistently exploiting their advantages —with results that are well-known throughout the oil fields.

Timken Bearings have so definitely proven their efficiency, economy and endurance on the crank shafts of oil field engines of every type—steam, gas and Diesel —that the time is not far distant when engines not so equipped will be obsolete before they go into service. To guard against this possibility in your engines specify Timken Bearing Equipped.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN *TAPERED ROLLER* **BEARINGS**

Gains Offset Decreases of Prior Week

WITH production in the week ending November 14, 69,419 barrels per day above that of the previous week, much of the progress made toward a tighter crude market was lost. Texas, Oklahoma, Kansas and California combined to produce 123,241 barrels per day in excess of the Bureau of Mines recommendation for those states. The Texas Railroad Commission on Monday increased the state's allowable production to approximately 1,140,000 barrels giving as an excuse a foreign demand that had to be met if Texas was not to lose the business to other states.

The November demand for crude oil is approximately the same as October in most refining areas and it now appears certain that this situation will continue over the balance of the year. Crude oil buyers, who expected their refinery connections to curtail their requirements due to the seasonal developments in gasoline consumption, in many instances are continuing the maximum shipments of the year with no indication this situation will change in the immediate future. The situation in the Middle West is particularly strong. Gasoline stocks in that area, as a group, are only slightly greater than they were a year ago and in most cases shipments are absorbing current output. Refiners there have had a 10 per cent increase in demand with additional gains in prospect for next year and they will be willing to make substantial additions to their inventories as soon as their current demand slackens. Reflecting this situation the Mid-Continent gasoline market strengthened the past week and most of the price declines of the early fall have now been regained. While there have been only minor price changes the market for all grades of fuels is tight with buyers unable to place orders for future delivery based on present quotations. While the normal coastwise movement of oil tankers plying between the Gulf Coast and North Atlantic ports has been disrupted by the seamen's strike, there is yet no serious shortage of petroleum products in the eastern markets. A sufficient number of ships is getting through without interruption to provide the required working stocks. It is true products previously stored are being drawn upon to supply the deficiency caused by the strike. There is some nervousness over the supply of fuel oil for the winter market in the northeastern states as the demand is growing daily as winter approaches. The strike is said not to have had a serious effect on oil shipping on the Pacific Coast thus far, but it has affected consumption.

Production 3,035,949

Increase 69,419

The 324 new oil wells completed in the past week did not develop one pool that looked important, and Eastern Colorado, expected to provide new fields, sounded a note of discouragement, when the second deep test scheduled for that big region was abandoned as a hopeless failure.

Daily Average Production for Week

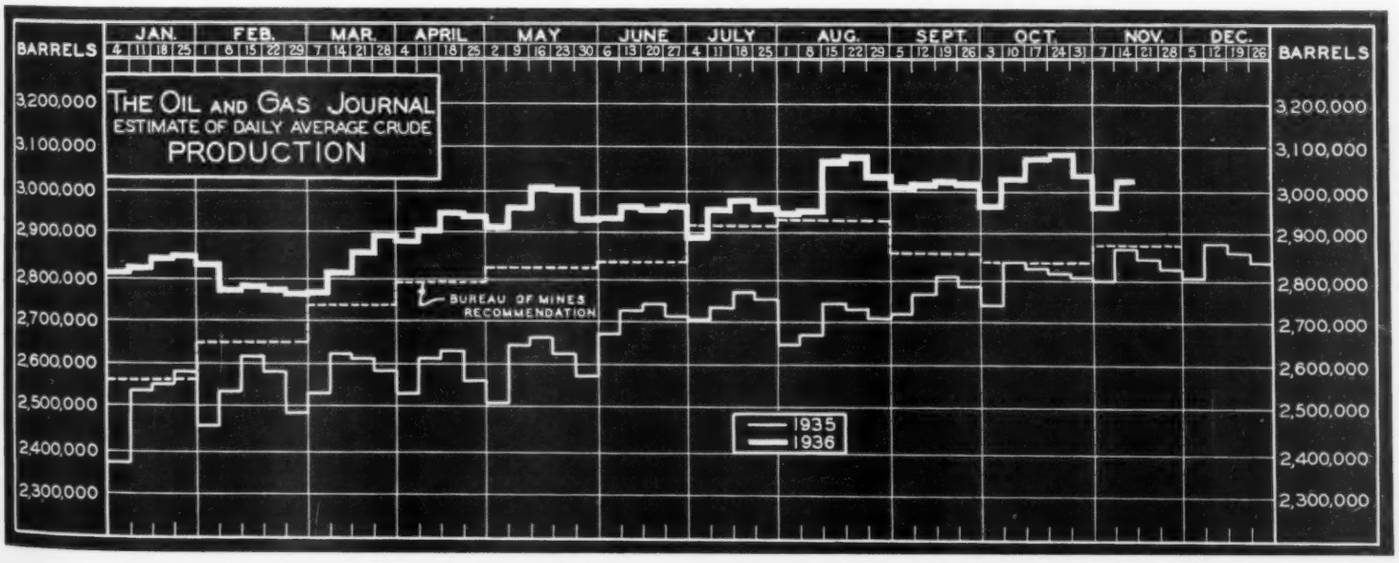
	Nov. 14, 1936	Bur. Mines Nov. est.	Nov. state allowables	Nov. 7, 1936
Oklahoma City	161,075	.....	.....	116,275
Seminole-St. Louis	90,350	.....	.....	89,750
Remainder of State	335,900	.....	.....	320,775
Total Oklahoma	587,325	558,400	558,400	526,800
East Texas	447,347	.....	.....	445,550
West Texas	160,297	.....	.....	165,200
North Central Texas	84,100	.....	.....	86,490
Texas Panhandle	58,950	.....	.....	63,593
East Central Texas	67,047	.....	.....	64,637
Gulf Coast—Texas	233,450	.....	.....	250,748
Southwest Texas	89,450	.....	.....	85,347
Total State of Texas	1,140,641	1,109,300	1,140,000	1,161,565
North Louisiana	77,020	.....	.....	77,875
Gulf Coast—Louisiana	153,350	.....	.....	156,350
Total Louisiana	230,370	198,600	238,350	234,225
Santa Fe Springs	45,650	.....	.....	45,300
Long Beach	65,450	.....	.....	65,900
Kettleman Hills	76,500	.....	.....	79,000
Remainder of State	405,900	.....	.....	395,550
Total California	593,500	549,600	*544,000	585,750
Kansas	167,075	154,500	154,500	143,450
Arkansas	27,815	28,100	.....	27,880
Eastern Fields	113,900	108,400	.....	114,100
Michigan	29,431	29,000	.....	29,710
Southwestern New Mexico	77,770	74,455	82,355	78,770
Rocky Mountain area	68,122	59,945	.....	64,280
Total United States	3,035,949	2,870,300	.....	2,966,530

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

Week ending October 31, 1936	291,040,000
Week ending October 24, 1936	291,846,000
Week ending November 2, 1935	315,558,000



SPARKS FROM THE NEWS

Other Ways

With the seamen's strike threatening to expand, the oil industry's varied means of transportation never looked better.

Leak

Louisiana is still short of Governor Leche's goal of 250,000 barrels daily; with wasteful operations in Rodessa one of the causes.

Double Barrel

As regards drilling current opinions indicate that the industry has need of more exploratory tests and fewer offsets.

Not so Dry

So far there are few indications that the reference to the "dust bowl" to Western Kansas includes oil operations.

Novelty

For the first time in several years the net incomes of some oil companies in 1936 will exceed their tax payments.

Necessity

Increasing demand and the necessity of minimum transportation costs point to extension of crude oil and gasoline pipe line systems.

Comeback

Discoveries in wildcat and extension tests point to revival of interest in Michigan.

Not Yet

Passing the 600,000-barrel daily mark in California does not indicate any immediate shortage of oil in that state.

Oversight

Refinery corrosion is a yearly bill of $125,000,000, a cost item which many investigators overlook.

Hint

Head of gasoline dealers says "Iowa plan" has made station operators price-conscious. A similar plan might be tried in other branches of the industry.

Dry Stuff

Too many completed wildcat tests recently have added to the geological information but not to the activities of the production departments.

In Same Fix

With total tax payments about double wages and salaries, employes as well as employers should be interested in their reduction.

Check!

Automobile manufacturers say they will have more cars on the highways and streets next year than ever before. This is no excuse to start building filling stations between corners.

Joint Liability

There is some question as to whether it is refiners or car manufacturers who are responsible for the octane race.

Gasoline Goal

Packed football stadia over the week-ends represent, among other things, many thousands of barrels of gasoline consumption.

DAWN OF THE GASOLINE AGE

A 1902 Haynes, a 1909 Mercer with Barney Oldfield at the wheel, and a 1906 Jackson in Fifth Avenue parade during 1936 New York auto show

Comb Coastal Louisiana for Overlooked Reserves in Salt Domes and Old Fields

New tests in old Jennings field

By NEIL WILLIAMS

HOUSTON, Tex., Nov. 16.—New sands and pools being uncovered in old producing fields and shallow domes in coastal Louisiana may point the way to the needed reserves that are not being found in new areas.

There are many fields throughout the country opened in earlier days, and in the light of contemporary knowledge supposed to have been fully exploited, which are now being gone over with all the advantages from subsequent experience and technical progress with surprising and pleasing results.

In South Louisiana companies and independents have been checking well and lease records in old areas and taking up acreage available, increasing development following with the result new producing sands and pools have been found.

Due to the new and more deeply seated fields brought in since the advent of geophysics, oil companies have been directing their efforts mainly to exploration and development of these. Most of the drilling in the older areas has been routine. Many have been neglected entirely by the drill. Undeveloped leases, although potentially productive, have been dropped in some cases, or have gone begging. Some domes have been abandoned entirely.

NEW FIELDS LIMITED

The revival of development around these old domes and fields indicates the companies are beginning to feel the discovery of new fields is not without end and that to meet their growing requirements undeveloped potentialities of the older fields will have to be utilized. It is recognized that, in the extensive geophysical coverage given the district, and the long list of fields and prospects already found, opportunities for discovering additional fields have been greatly diminished. Although there may be a number of fields and prospects undiscovered, the increasing difficulty of finding these is causing operators to turn their attention to known prospects and fields.

Most of the newer fields and prospects have been leased tightly, and generally are held by single companies or on a unitized basis, due to the nature of the exploration occasioned in finding them. Acreage open on or around known fields and domes is limited largely to the older areas, consisting principally of the shallow, piercement type salt domes. The lack of interest in these old areas, due to the play for the newer types of fields, has created favorable opportunities even for smaller companies and independents to obtain leases.

OFFERS OPPORTUNITIES

At the same time it is believed many, if not all, of these older areas still offer opportunities for development of additional new production. Most of them are directly associated with shallow, piercement type salt domes. Around such domes there usually is a complexity of sands and such a diversification of sources of production that no field of this type can ever be considered as having been completely exploited. Characteristic of the newer fields, most of which have been of the deeply seated, nonpiercement type of dome or structure with blanket formations have been more uniform and consistent sand conditions with generally larger and more regular producing areas which greatly reduced the hazard of development. Although piercement type dome fields have been among the most prolific producers, discovery and development of this production often has been hazardous due to irregular and treacherous sands and comparatively narrow productive limits which have existed around most of them.

In the list of old fields and shallow domes there are some which have had very little development. Companies seemed content at the time to drill just a few localized tests, and then shift their efforts to other areas. On such domes the greater part of the potentialities remain to be developed. In those fields actively drilled and which have been large producers most of the development usually has been confined to certain sectors or sands, leaving the remainder to be exploited.

The newer fields which have received the attention of operators within recent years continue to offer an extensive potential reserve for Coastal Louisiana. Although there has been a noticeable slackening of geophysical exploration within recent months, and the rate of discovery of new prospects may decline sharply, there are many prospects discovered in the intense geophysical play which has been going on which have had little or no drilling, and among the newer proven fields there are few which have been fully defined. Most of these are in controlled hands, and in view of the costs in exploration and development, drilling will continue conservatively so that individually none will make available any excessive current production.

As further inducement to resume exploitation and development of the older domes and fields, hazards probably have been reduced materially by increased knowledge of sand conditions around those domes. The original exploration and development was carried on more or less haphazardly with the result conditions seemed more uncertain than they really were. Increased knowledge of salt domes may enable companies to carry on more effective development.

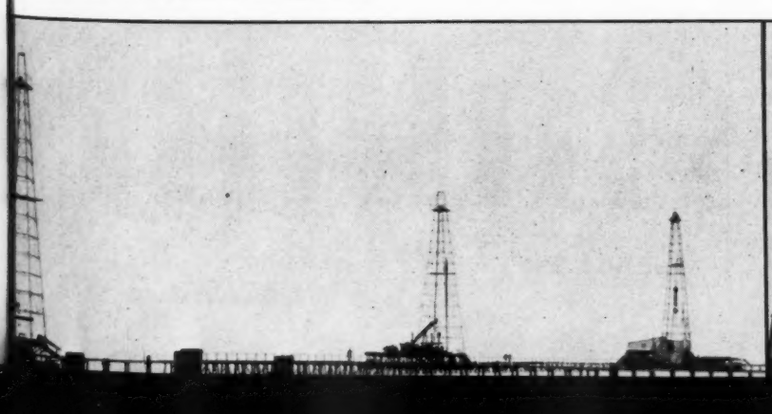
IBERIA PARISH

Indication of the potentialities is given in the new production around the New Iberia dome, Iberia Parish. Opened for production in 1917 in shallow sands overlying the dome, the development which followed proved rather disappointing, and from 1917 to 1929 only 74,437 bbls. of oil was produced. This played out and from 1929 to 1934 the dome was inactive. In 1934, an independent wildcatter in a test off the east side of the old field succeeded in opening production in a shallow, Miocene flank sand. This encouraged additional drilling of flank sands which brought only mediocre results during that year and 1935. This year, however, with the extension of drilling to the west and southwest flanks, a daily production of more than 9,000 bbls. has been built up. A dozen rigs are active around this dome with production obtained from a series of flank Miocene sands on the east, southeast, southwest, west and north sides. Up to July 1 a total of 1,201,404 bbls. had been produced, but the biggest gains in production have been made since.

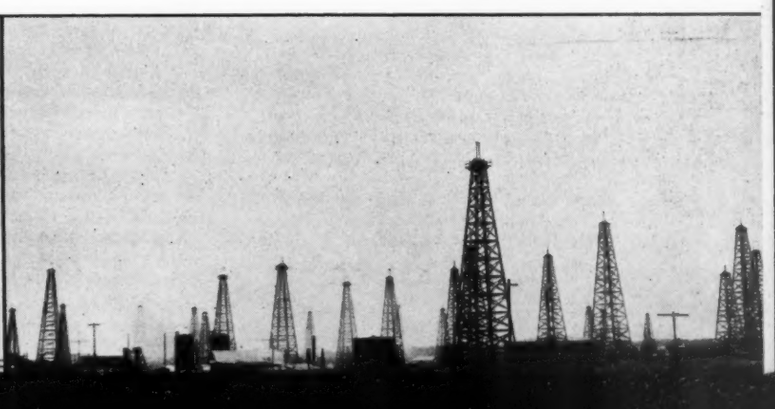
Port Barre, St. Landry Parish, is another of the older domes at which new producing reserves have been opened recently. This dome, of the shal-

(Continued on Page 22)

Deep sand development in Calcasieu Lake



Shallow sand area of Jennings field



Gain in Gasoline Demand With More Cars on Road

By H. STANLEY NORMAN

NEW YORK, Nov. 17.—Comfort and safety, designed to stimulate use of motor vehicles, regardless of season and without thought of distances, were the keynotes struck last week by the nation's automobile manufacturers as they paraded their new-born 1937 models before New Yorkers and the world at large. Generally speaking, the 1937 motor car will differ from this year's models chiefly in roomier and more artistically finished interiors, with refinements to the sweeping curves of exterior lines, coupled with more power and speed in engine design.

Walter P. Chrysler, head of the Chrysler companies, summarized briefly the viewpoint of the automobile industry when he said at the opening of the show:

"The 1937 motor car is more attractive, more commodious, safer, and more economical."—ALFRED P. SLOAN, JR.

"Automobile transportation is now a necessity. Automobile designing, manufacturing and selling is in the hands of the forward-looking, capable men and I believe they are competent to handle their problems and opportunities with a very high regard for the public interest and safety as well as the needs of their customers.

"Because the substantial shortage of passenger car and truck transportation accumulated during the recent depression has not yet been replenished, because more and more people are becoming dependent on individual means of transportation, because the continual improvement of roads and highways opens new markets for automobiles and trucks, and because people generally have more money to spend than they did a few years ago, the market for cars and trucks should continue to make good business."

Viewed from the oil men's standpoint, inducements offered for expansion of year-around driving are welcome extensions of the car manufacturing craft. Such incidentals as inclusion of heaters, windshield defrosters, greater driving vision smoother acceleration, improved brakes, shatterproof glass and almost universal adoption of roomier, all-steel bodies go to make up the 1937 improvements over 1936 designs. Regarded individually, the refinements and improvements seem incidental, but combined they seem certain to attract greater sales for the manufacturers and greater year-around demand for the oil industry.

Automobile manufacturers do not attempt to estimate their gasoline requirements, simply pointing out there will be more motor vehicles on the highways next year than ever before, with a larger percentage of the commercial vehicle class which requires more gasoline and oils per unit. Other observers do not anticipate the gain in gasoline demand in 1937 will be as great as that of 1936 over 1935 now estimated to be more than 40,000,000 bbls. or approximately 10 per cent. Statisticians, however, are predicting a gain in domestic gasoline demand of 35,000,000 bbls. this year and this, interpreted in terms of crude oil, means 75,000,000 more barrels than in 1936, or a gain in demand of at least 200,000 bbls. daily.

Expansion of the hypoid gear construction in rear axles appears certain to increase demand for the extreme pressure lubricants. Specifications call for powerful, extreme pressure lubricants in hypoid geared rear axles ranging from S.A.E. 90 for severe winter temperatures to S.A.E. 160 for summer driving. Hypoid gears have been adopted for the first time in Buick 40; Buick 60; Cadillac V-8, 60; Chevrolet, 6; Chrysler Imperial, 8; Chrysler Custom Imperial, 8; LaSalle, 8; Packard, 6; Plymouth, 6, and Studebaker President, 8. Extreme pressure lubricants were previously required in the hypoid geared rear axles of the Chrysler Royal, 6; Duesenberg, 8; Dodge, 6; Packard, 120; Packard Super, 8; Packard, 12; Pierce-Arrow, 8 and 12. With exception of Ford, who is building a 60-horsepower motor designed to attract the buyers demanding economy in operation, the trend in engine design continues to lean to larger, more powerful motors. The LaSalle is equipped for 1937 with a 322-cubic inch V-8 engine, replacing the 248-cubic inch straight-eight motor formerly employed. Chevrolet has an entirely new overhead valve engine with a piston displacement of 216 cubic inches compared with 206.8 cubic inches in previous models. The new Chrysler and DeSoto sixes also have larger, more powerful motors.

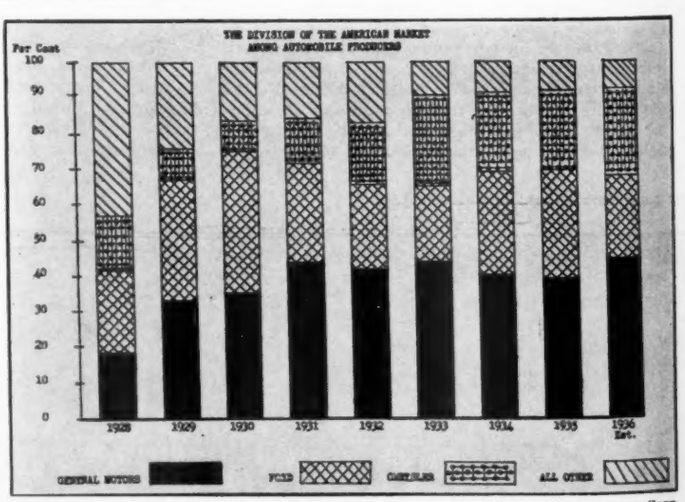
In an effort to offset the normal increase in fuel consumption in the larger, stronger motors, manufacturers have built improvements in carburetion, manifolding and valve action. The trend to higher compression ratios, which has shown steady progress since 1930, was again adopted by some manufacturers to the end of increasing horsepower. However, those builders adopting higher compression ratios for 1937 models were in some instances behind the previous maximums which have been adequately served by the existing regular and premium grades of gasoline.

Much emphasis is to be placed next year on merchandising of heavy duty trucks and commercial cars, which are credited with a big part in 1936 gasoline consumption increases. One or two

Trend in Compression Ratios in Leading Cars for 7 Years

	1937		1936						
Car Model, 1937—	Stand.	Option.	Stand.	Option.	1935	1934	1933	1932	1931
AUBURN	6.20	.....	6.20	.....	6.20	6.20	5.26	5.26	.....
BUICK, 60	5.75	.....	5.45	.....	5.25	5.25	5.25	5.09	4.75
CADILLAC, V-12	6.00	5.65	6.00	5.65	6.00	6.25	5.60	5.30	.....
CHEVROLET, Master 6	6.25	.....	6.00	.....	5.45	5.45	5.20	5.20	5.02
CHRYSLER, AF8	6.50	7.45	6.20	7.00	6.20	5.20	5.20	5.20	.....
DODGE 6	6.50	.....	6.50	.....	6.50	5.50	5.50	5.35	5.20
DE SOTO 6	6.50	7.00	6.00	7.00	6.00	6.20	5.35	5.35	.....
FORD, V-8, 60	6.75	.....	.....	.....	.....	.....	.....	.....	.....
FORD, V-8, 85	6.30	.....	6.30	.....	6.30	6.33	6.33	5.51	4.22
GRAHAM 6, 120	6.70	.....	6.80	.....	5.80	6.50	6.50	6.50	.....
HUDSON, 8	6.25	7.00	6.00	7.00	6.00	5.80	5.80	5.80	5.80
HUPMOBILE	5.80	.....	5.80	.....	5.75	5.75	5.75	5.40	.....
LAFAYETTE, 400	5.61	5.88	5.54	5.73	5.54	5.30	.....	.....	.....
NASH, 8	5.64	.....	5.25	.....	5.25	5.25	5.10	5.10	5.00
OLDSMOBILE, 8	6.20	.....	6.20	.....	6.20	5.70	5.50	5.90	.....
PACKARD, 6	6.30	6.75	.....	.....	.....	.....	.....	.....	.....
PACKARD, Super 8	6.50	.....	6.50	.....	6.50	6.00	6.00	6.00	.....
PLYMOUTH, 6	6.70	.....	6.70	.....	6.70	5.80	5.50	4.90	4.60
PONTIAC, 8	6.20	.....	6.20	.....	6.20	6.20	5.70	5.20	4.90
STUDEBAKER, Pres. 8	6.50	.....	6.50	.....	6.00	6.30	5.50	5.20	5.20
Average	6.26	.....	6.12	.....	5.99	5.83	5.59	5.50	4.96

(Note—So far as possible cars listed for 1936-1931 were comparable as to model with those shown for 1937.)



—Young Management Corp.

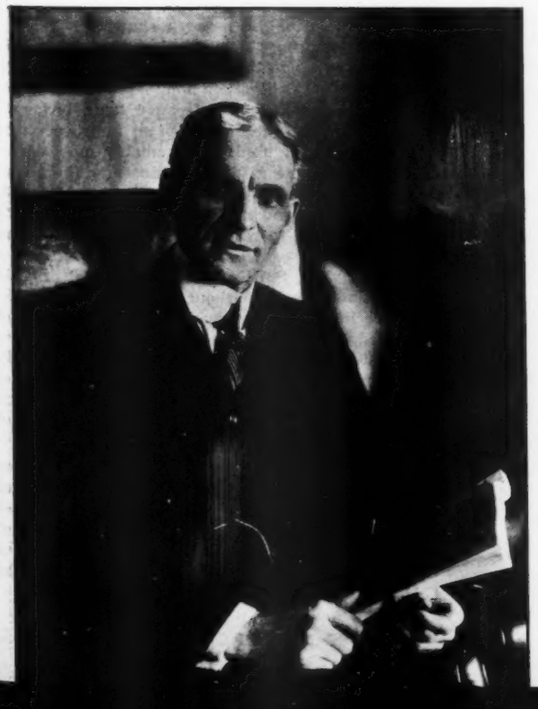
Is Seen in 1937

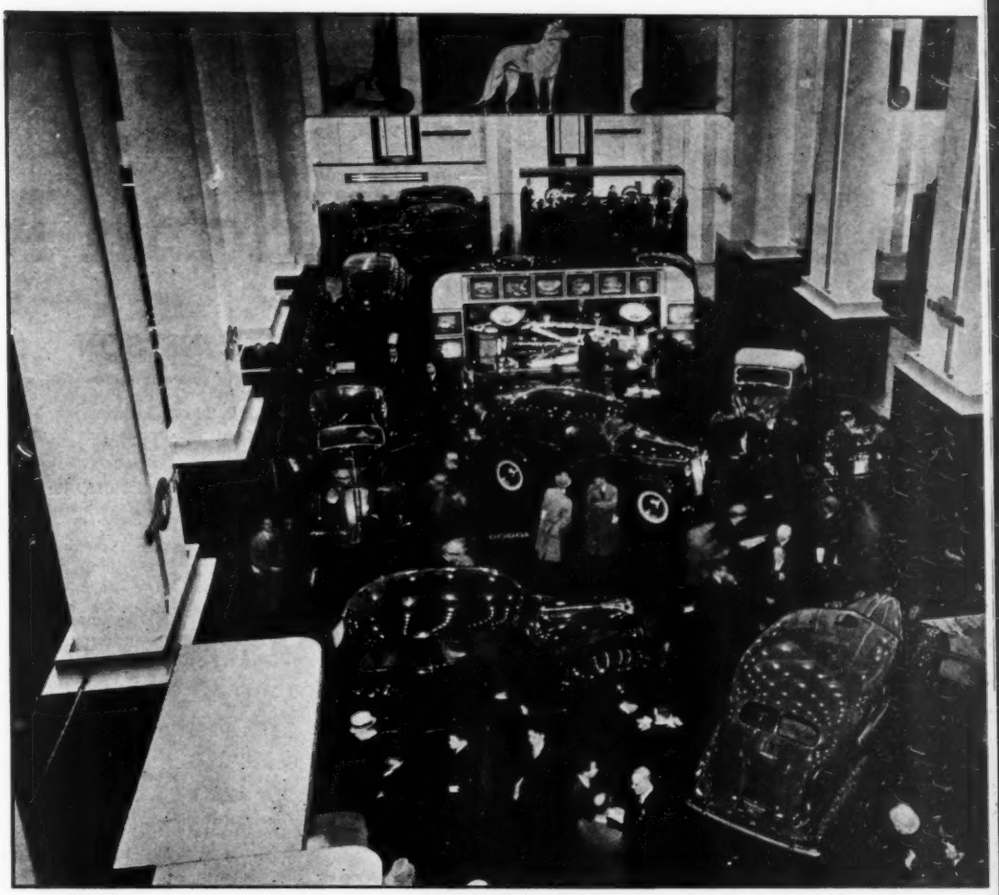
new truck lines will be introduced or were shown for the first time last week. The same trends applicable to the passenger car field are noted by builders in the commercial lines. Dependable operation, power and appearance are the three goals sought by the truck builders as well as in the passenger car field.

Automotive manufacturers anticipate 1936 sales will total around 4,575,000 units, or approximately 11 per cent above 1935 business. There are several statisticians and manufacturers who anticipate 1937 sales will exceed 5,000,000 units based partially on indications given by previous replacement cycles.

Although manufacturers are aware the life span of individual motor units is being gradually lengthened due to engineering technique and metallurgical advancement, a majority of the key men in the industry hold national income is the real index to sales. They pin their contentions on relatively slight reductions in car registrations during the lowest part of the depression. In this connection, however, it is pointed out by others that the three years following 1929 when an all-time production peak was set, were not only in the trough of the depression but were years when automotive units in use were comparatively new. The low point was reached in 1932 and there has been a gradual increase to 1936 which probably will exceed any year on record excepting 1929. Since the average life of each unit is now considered approximately eight years, many statisticians feel 1937 will supply the cars to replace those retired after serving one or more owners since 1929. Each year sees more and more of the pre-1930 models retired from service, gradually reducing the vehicles which operate satisfactorily on gasoline of low octane rating. In this connection, it is probably interesting to the oil refiner to know requirements for better grades of gasoline and the more profitable products are gradually expanding with a corresponding contraction of the customers who buy strictly on price tag basis.

"We expect to manufacture 1,300,000 of our 1937 Fords."—HENRY FORD.





Secton of the New York automobile show

Trailers occupied a prominent display position in the National Automobile Show for the first time this year. Twenty odd manufacturers displayed upward of 100 models in the trailer division ranging from the low-priced units incorporating the bare essentials to the fully equipped home varieties complete with baths, running water, heaters, electric refrigeration and built-in cabinets. Trailer builders are preparing for record demand in 1937 and the fact two or three car manufacturers are now interested in building the traveling homes is ample evidence they look to this method of travel to stimulate use of automobiles. In turn the consumption of gasoline appears to motor people to be headed definitely higher than 1936 demand.

The lighter oils for crankcase lubrication have taken complete command. In only two cars, Cadillacs and Lincolns, are oils of S.A.E. 40 recommended for summer driving. Remainder of the manufacturers recommend no heavier than S.A.E. 30 for summer use and No. 20 or No. 20-W for all excepting extremely cold operating conditions in the winter. In protracted temperatures of 20° F. to 30° below zero, most manufacturers recommend No. 10-W plus 10 per cent kerosene.

The crankcase lubricating recommendations are approximately the same as prevailing this year, indicating refiners have produced satisfactory oil, chiefly through widespread adoption of the solvent method.

The situation in regard to lubricants was summarized in a statement by H. C. Mougey of General Motors Research Laboratories to the American Chemical Society, which in part was as follows. "Under present conditions it is easy for an automobile company to change in production from one bearing material to another. Consequently, bearing materials now in production may not be the same as those that will be used six months hence.

"Probably all the bearing materials now in use will continue to be used, wherever they are found to be suitable, and the probabilities are that the list of bearing materials will be increased."

"I have never been more optimistic about the automobile industry than I am today"—WALTER CHRYSLER.

Operators Are Told of Practical Progress Made in Metallurgy

By W. L. NELSON

The suitability of alloy steels for production and refinery services and the protection of refineries against corrosion were topics of major interest at the American Petroleum Institute convention in Chicago, November 10, 11 and 12.

Quoting from Jeffries and Archer, Science of Metals, "The most certain evidence of the behavior of metals under a given set of working conditions consists in the accumulated results of many trials under those conditions." This obvious statement is unfortunately the true status of metal usage. All of the papers consistently set forth the results of actual service rather than theories as to how the metals should behave. In fact, W. H. Clapp in "The Relation of Mechanical Testing to Steel Performance," concludes that laboratory tests of the physical properties of steels are not always indications of the performance of these steels in service and that differences in the mechanical properties are not as significant as heretofore believed. Various types of failure of notched specimens were studied in an effort to discover the true dependability of a steel in service and the author concludes that the common mechanical tests fail to give a complete picture of each type of failure. Finally, the author makes a plea for the rating of steels on a basis of dependability and defines a dependable steel as one in which the range of variation of a particular property is small, so that variations in different specimens will not overshadow the importance of the superior properties exhibited by an average specimen.

Production and field men will welcome the analysis of the collapse strength of casing and the correct setting-depth for casing as presented by T. McLean Jasper in "Importance of Compression Yield Strength in Establishing Setting Depths for Casing." The author presents a mathematical analysis of collapse theory and corroborates his analysis by the use of some 500 field tests.

A comprehensive discussion of the development of bearing materials, the bearing materials now recommended, the properties which a bearing must exhibit, and the lubrication of modern bearings was presented by H. C. Mougey as "The Newer Bearing Materials and Their Lubrication." The S.A.E. babbitts (adopted 1922) analysis of which are given below, are widely used.

S.A.E. BABBITTS (TYPICAL COMPOSITIONS)

S.A.E. No.	Kind	Tin	Lead	Copper	Antimony
10	Tin	90.0	0.35 max.	4.5	4.5
11	Tin	87.0	0.35 max.	5.75	6.75
12	Tin	59.5	26.0	3.0	10.5
13	Lead	5.0	84.0	0.5 max.	10.0
14	Lead	10.0	74.0	0.5 max.	15.0

The S.A.E. babbitts are all resistant to corrosion in engines but the older cadmium bearings and lead-sodium bearings are not resistant. Although problems in bearing construction materials still exist, the author is confident that these problems will be solved by cooperation between the petroleum and automotive industries just as (1) crankcase dilution and corrosion, (2) gum difficulties, (3) vapor lock and (4) cold starting troubles, have been solved in the past.

ALLOY STEELS

Although the tonnage of alloy steels is still small, the use of alloy steels is increasing more rapidly than the use of plain carbon steels. The modern trend of deep-well drilling has placed increasing demands on both drilling and production equipment, and an obvious way to meet these demands is the use of the stronger low allow steels. Besides drilling equipment and new wells, there are probably more than 275,000 pumping wells in the United States alone and all of these require sucker-rods and if the wells are pumped in groups from one engine, strong pull-rods are also necessary.

Jerome Strauss and A. W. Demmler presented "Vanadium Steels for the Oil Industry" and John E. Wilson, "Molybdenum in Modern Oil Drilling and Production Equipment." In cable drilling equipment, drill jars, bits and loose threaded connections, are all subject to hardening by the continual blows that they receive in service. For such work-hardening services, 0.2 vanadium, 0.65 carbon steel is recommended, although some manufacturers believe that 0.2 vanadium, 1 chromium, 0.53 carbon steel is more suitable for bits. As a summary of the uses for vanadium steel recommended by Strauss and Demmler, Table 1 has been taken from the several more complete tables given in the original paper.

TABLE 2—MOLYBDENUM IN DRILLING AND PRODUCTION EQUIPMENT

Service—	S.A.E. No. or name of steel	Approximate composition—Carbon	Molybdenum	Chromium	Nickel	Manganese
1. Sucker-rods, polish rods	4130	0.3	0.2	0.65	....	0.65
2. Rock and core-bit bodies, reamer bodies, tool joints, drill collars, subs, valve bodies and bolts, chain links, pins and bushings	4140	0.4	0.2	0.95	....	0.75
3. Cutters, pump liners, sucker-rods for sulfide corrosion, liners, piston rods, valve bodies and seats in deep-well pumps, pins and bearings for crown and traveling blocks	4615	0.15	0.25	....	1.8	0.55
4. Sheaves for crown and traveling blocks	4630	0.3	0.25	....	1.8	0.6
5. Pins and bearings on bits, etc., chain pins and bushings	4650	0.5	0.25	....	1.8	0.7
6. Rock and core-bit bodies	(*)	0.29	0.2	....	....	0.7
7. Rock and core-bit bodies	(†)	0.27	0.27	....	1.5	0.7
8. Reamer bodies	(‡)	0.35	0.27	0.6	1.25	0.7
9. Drill pipe	(§)	0.45	0.2	....	....	1.5
10. Deep-well pump liners	(¶)	3.2	0.4	(‖)	....	....

*Molybdenum cast steel. †Nickel molybdenum cast steel. ‡Chromium molybdenum forged steel. §Manganese molybdenum steel. ¶Molybdenum iron. ‖Silicon 2.1.

The paper by Wilson on molybdenum for production equipment contains much useful information on the general effects of molybdenum additions and on the physical properties of these steels but the present discussion will be confined mainly to the tabulation of ussages shown in Table 2. However, quoting Wilson, "in Kettleman Hills field, according to one rock-bit manufacturer, the number of feet drilled per hour has been increased from 1 foot per hour to 4 feet per hour during the last three years, due largely to an improvement in the type of steel used." (Presumably molybdenum alloy steel), quoting further, "Recently the following data (correspondence with D. M. Hammett, Axelson Manufacturing Co., Tulsa, October 8, 1936) obtained in field tests, has been reported. Company "G" Carter lease, Seminole, Okla., installed in a 4,400-foot well, S.A.E. 4615 rods, which ran 11 consecutive months without a break. During the same period 22 breaks occurred in other types of steel rods of reputable manufacture, which were installed alternately with the S.A.E. 4165 rods. Company "G" now has more than 400,000 feet of S.A.E. 4615 sucker-rods in service, and claim a definite improvement over all other grades of steel."

The paper by Arthur Marks entitled, "Corrosion Protection of Refineries" is an able discussion of the various reports, records, and papers received since 1928 by the A.P.I. Committee on Corrosion of Refinery Equipment. This paper was published complete in the November 12, 1936, issue of The Oil and Gas Journal, starting on page 183.

TABLE 1—USES FOR VANDIUM ALLOYS IN PETROLEUM INDUSTRY

Service*	Name of steel	S.A.E. No.	Carbon	Vanadium	Chromium	Nickel	Molybdenum	Manganese	Silicon
Drill jars and bits	Vanadium carbon steel	....	0.65	0.2	....	....	....	0.75	....
	Vanadium chromium steel	....	0.53	0.2	1.00	....	....	0.75	....
Crown block and engine crossheads	Vanadium steel casings	....	0.3	0.1	....	....	....	1.55	....
	Vanadium nickel steel castings	....	0.3	0.1	....	1.5	....	0.9	....
Diesel cylinder heads	Vanadium molybdenum iron	....	3.00	0.1	....	....	0.5	....	2.1
	Vanadium alloy iron	....	3.05	0.1	....	1.25	0.75	....	1.85
Brake drums	Vanadium alloy iron	....	3.2	0.15	....	1.25	0.75	....	1.85
Diesel pistons	Vanadium alloy iron	....	2.9	0.1	....	1.5	0.6	....	1.7
	Vanadium molybdenum iron	....	2.9	0.1	....	....	0.65	....	1.9
Clutch plates	Vanadium chrome iron	....	3.1	0.1	0.35	....	....	....	2.0
Drill bodies, tool joints, kellys, fishing tools	Vanadium chrome steel	6140	0.4	0.18	1.0	....	....	0.75	....
	Vanadium alloy steel	....	0.4	0.18	1.25	....	0.35	0.65	....
Cutters for bits and reamers	Vanadium chrome steel (carburized)	6115	0.18	0.17	0.95	....	....	0.55	....
	Vanadium alloy steel (carburized)	....	0.15	0.17	0.6	0.5	....	0.5	....
	Vanadium steel (full hardening)	....	0.6	0.35	....	....	0.55	0.8	2.0
Drill pipe	Vanadium manganese steel	....	0.5	0.1	....	....	....	1.6	0.25
	Vanadium manganese steel	....	0.38	0.1	....	....	....	1.75	0.6
Sucker rods	Vanadium chrome steel	6115	0.18	0.17	0.95	....	....	0.55	....
	Vanadium chrome steel	....	0.4	0.1	0.35	....	....	1.2	....
	Vanadium manganese steel	....	0.17	0.1	....	....	....	1.3	....
Pressure vessels	Vanadium chromium steel	6115	0.15	0.17	1.0	....	....	0.55	0.2
	Vanadium chromium steel	6125	0.2	0.17	1.0	....	....	0.55	0.2

*In many cases the steels are heat treated in different ways to bring out the properties most suitable for each of the services.

Search for New Crude Reserve Was Main Topic at Chicago

By C. O. WILLSON

The coming year will witness a rapid expansion in exploratory work in all sections of the country where there is a possibility of finding new oil reserves, according to representative opinions expressed at the annual meeting of the American Petroleum Institute last week in Chicago. While the search for new fields was not discussed in the several meetings, it was a main topic of conversation between sessions among those who are interested in where the new supplies are to come from over the next year or two.

There was general agreement in the informal discussions that wildcat operations over the past year have been disappointing so far as opening up major oil reserves. Numerous small discoveries have been made, but it is not believed that the total of these equals the one billion barrels of crude which will be produced and consumed before the end of the year. Many of the failures were drilled in sections where geological and geophysical data indicated the discovery of oil and large areas have been condemned as a result of these exploratory tests.

Statements of those most familiar with conditions also pointed to major expenditures in refining expansion and improvement programs in 1937. The large increase in demand the past year with further gains assured next year is compelling many refinery operators to increase the capacity of their plants.

In the case of cracking it was pointed out there is both the necessity of increasing yields and the requirement of higher octane ratings in gasoline output. Owners of many plants have held their expenditures to a minimum and are now faced with the necessity of practically rebuilding their plants in order to improve quality of products and take advantage of economies possible with new developments in processing.

Directors of the Institute in their final session decided to hold the semiannual meeting at the Broadmoor Hotel, Colorado Springs, Colo., next June, the exact dates to be announced later. The eighteenth annual meeting of the Institute will be held at the Stevens Hotel November 9-12, 1937.

The election of W. S. S. Rodgers, president of the Texas Corp., as vice president of the Institute in charge of refining, succeeding Jacob France, president of the Mid-Continent Petroleum Corp., was the only change made in the list of officers. Only a few changes were made in the membership of the principal committees which carry on the various activities of the Institute.

Approximately 2,300 registered during the three-day meeting which closed Thursday. No matters of immediate importance were brought to the attention of the board of directors and the several group and general meetings, an unusual development which in part reflects the general satisfactory condition in the industry over the past several months.

The economic and technical angles of excessive drilling in several areas were outlined in the general and technical sessions. Discussions in lobbies as well as the prepared statements indicate that a solution to this problem is necessary to insure a continuance of stable conditions in the industry.

This problem largely arises from the practice of basing allowables on number of wells rather than acreage or some other basis which would assure an equitable and economic recovery of oil in proven areas. Discussions indicated the seriousness of this situation, especially in Texas, where the rapid expansion in drilling has gradually reduced the allowable per well so that profitable development of certain fields and leases is threatened. It has worked a special hardship on operators in those pools where drilling has been restricted to the wells necessary to secure economic recovery but which have had their allowables reduced due to excessive drilling in other areas.

There is some disagreement as to whether there is any legal remedy to this problem in the form of state regulations which would control well spacing on a more equitable basis than is possible under the present laws. Some believe that the restriction of drilling rests entirely on the voluntary action of operators with emphasis placed on the desirability of unit operations. This problem is to receive special consideration from committees representing associations and state regulatory bodies and it is probable that remedies will be suggested in the near future. The investigations being made include technical studies which have to do with the relation of the number of wells to the practical phases of economical operation.

Left to right: R. G. A. van der Woude, J. C. Taylor and J. C. van Eck.

C. E. Arnott, vice president of the Institute warned the marketing group in its opening session that failure to solve its problems would bring chaos from which the entire industry would suffer. An entire session devoted to the "Iowa Plan" indicated that refiners were satisfied with the application of the plan which in effect has meant their withdrawal from retail station operations. Most jobbers and dealers also favor the plan. One speaker advocated its extension to the end that refiners would also withdraw from bulk station operations.

Willis Crane of the Washington office of the National Petroleum Association in discussing legislation pointed out that one trend is to force manufacturers out of the distributing end of their business. This is being brought about principally by chain store and social security legislation. Another trend is to interfere with normal marketing practices through legislation such as the Robinson-Patman and the Walsh-Healey acts.

The Honorable Samuel B. Pettengill, member of congress from Indiana, in one of the most widely commended addresses of the annual meeting said that industrial statesmanship of the highest order was needed if free enterprise is to continue in this country. Mr. Pettengill who was a member of the Cole Investigating Committee and this year the author of the book "Hot Oil" made a plea for "industrial self discipline placing limits on greed, recognizing the trusteeship of management, not for stockholders only but for labor and the consumer, thus eradicating the evils of capitalism by self-surgery and making it function in the interest of the masses, without whose support free enterprise cannot function."

He spoke against price-fixing and urged the expansion of public relation activities. He also favors interstate compacts in the solution of interstate problems and the expansion of federal powers to approve voluntary agreements in industry.

He condemned the Thomas-Disney bill to extend federal control of the oil business introduced in the last session of congress as typical of legislation which seeks to throttle private enterprise.

"If the leaders and owners of the American systems are too

Left to right: W. K. Warren, H. N. Greis, E. B. Reeser and R. W. McDowell
—(Photos by Alvin Krupnick)

lazy to wash their dirty dishes, too selfish to be intelligent and too timid to stick their necks out in defense of free enterprise and constitutional government, who will defend it?" Mr. Pettengill said in making a plea for action on the part of industrial leaders.

The newly elected officers of the Institute are: Axtell J. Byles, president; K. R. Kingsbury, Standard Oil Co. of California, San Francisco, Calif., vice president at large; George A. Hill, Jr., Houston Oil Co. of Texas, Houston, Tex., vice president for production; W. S. S. Rodgers, Texas Co., New York, vice president for refining; and C. E. Arnott, of Socony-Vacuum Oil Co., Inc., New York, vice president for marketing. W. R. Boyd, Jr., was re-elected executive vice president, and O. D. Donnell, of the Ohio Oil Co., Findlay, Ohio, was re-elected treasurer. Lacey Walker, of Teanock, N. J., was reelected secretary and assistant treasurer, and John S. Cooke, of Hoboken, N. J., was re-elected assistant secretary. The members of the new executive committee are: Chairman F. A. Leovy, Gulf Oil Corp.; J. Howard Pew, Sun Oil Co., Philadelphia; E. G. Seubert, Standard Oil Co. (Indiana), Chicago; H. F. Sinclair, Consolidated Oil Corp., New York; W. C. Teagle, Standard Oil Co. of New Jersey, New York; and R. G. A. van der Woude, Shell Union Oil Corp., New York, who succeeds J. C. Van Eck.

Members of the committee on membership are: Chairman D. E. Buchanan, Hanlon-Buchanan, Inc.; R. A. Broomfield, Barnsdall Oil Co. of California, Los Angeles; E. J. Bullock, Standard Oil Co. (Indiana), Chicago; W. H. Ferguson, Continental Oil Co., Denver, Colo.; and J. L. Hamon of Cox & Hamon, Dallas, Tex.

Members of the American petroleum industries committee all reelected are: Harry T. Klein, Texas Co., New York; Edwin S. Hall, Standard Oil Co. of New Jersey, New York; James J. Cosgrove, Continental Oil Co., Ponca City, Okla.; Paul M. Gregg, Union Oil Co. of California, Los Angeles; W. J. Guthrie, Gulf Refining Co., Pittsburgh, Pa.; G. V. Holton, Socony-Vacuum Oil Co., Inc., New York; W. A. McAfee, Standard Oil Co. of Ohio, Cleveland, and R. T. Osborn, Sinclair Refining Co., New York.

Alma Refinery

MUSKEGON, Mich., Nov. 14.—The new 1,100-bbl. Dubbs cracking unit being erected by Leonard Refineries, Inc., at Alma, is more than 50 per cent completed and expected to be in operation about January 1, it was announced this week by J. W. Leonard, Jr., president.

Texas Allowable Is Increased 18,639 Barrels Daily

AUSTIN, Tex., Nov. 16.—The Railroad Commission increased the state's allowable 18,639 bbls. daily, effective last Saturday. Cayuga is up 2,300 to 7,500 bbls.; Van, 5,000 to 31,296 bbls.; Plymouth, 2,500 to 11,420 bbls.; McElroy, 2,500 to 4,650 bbls.; East Howard, 600 to 7,016 bbls.; North Ward, 3,388 to 8,500 bbls. Wells in the 5,800-foot horizon in the Saxet field, up 15 bbls. to 100 bbls. per well. Keystone, in Winkler County, 613 bbls. to 1,439 bbls. Foster field, Ector County, 238 bbls. to 538 bbls.

The commission said the increases were necessary to keep domestic and foreign purchasers from going to other states.

Commission engineers estimated the new allowable was approximately 1,140,000 bbls. daily, about 30,000 bbls. above the estimate of the Bureau of Mines.

Crude Oil and Refinery Situation Summarized — First Nine Months

Supply and Demand—Crude Oil (Bbls.)

First 9 months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude Sept. 30
1936	838,503,000	856,991,000	18,938,000	2.3	814,051,000	24,002,000	819,326,000	37,665,000	295,693,000
Daily average	3,059,000	3,128,000	69,000	.....	2,971,000	88,000	2,990,000	138,000	.....
1935	754,779,000	771,328,000	16,549,000	2.2	730,595,000	24,184,000	733,147,000	38,181,000	320,705,000
Daily average	2,755,000	2,815,000	60,000	.....	2,667,000	88,000	2,676,000	139,000	.....
Increase, 1936	83,274,000	85,663,000	.....	.....	83,456,000	†182,000	86,179,000	†516,000	†25,012,000
Increase, 1936	11.0%	11.1%	.....	.....	11.4%	†0.8%	11.8%	†1.4%	†7.8%

Supply and Demand—Refinery Products—Motor Fuels (Bbls.)

First 9 months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks Sept. 30§
1936	380,669,000	378,675,000	*1,994,000	*0.5	380,669,000	.....	358,026,000	20,649,000	62,745,000
Daily average	1,389,000	1,382,000	*7,000	.....	1,389,000	.....	1,307,000	75,000	.....
1935	342,101,000	343,091,000	990,000	0.3	342,081,000	20,000	321,465,000	21,626,000	56,467,000
Daily average	1,249,000	1,252,000	3,000	.....	1,249,000	.....	1,173,000	79,000	.....
Increase, 1936	38,568,000	35,584,000	.....	.....	38,588,000	†20,000	36,561,000	†977,000	6,278,000
Increase, 1936	11.3%	10.4%	.....	.....	11.3%	†100.0%	11.4%	†4.5%	11.1%
Kerosene									
1936	41,083,000	40,781,000	*302,000	*0.7	41,082,000	1,000	36,018,000	4,763,000	8,217,000
1935	41,333,000	38,493,000	*2,840,000	*7.4	41,333,000	.....	33,327,000	5,166,000	9,238,000
Increase, 1936	†250,000	2,288,000	.....	.....	†251,000	1,000	2,691,000	†403,000	†1,021,000
Increase, 1936	†0.6%	5.9%	.....	.....	†0.6%	.....	8.1%	†7.8%	†11.1%
Gas Oil and Fuel Oil									
1936	328,324,000	319,691,000	*8,633,000	*2.7	314,723,000	13,601,000	294,463,000	25,228,000	112,617,000
1935	281,909,000	282,165,000	256,000	0.1	266,060,000	15,849,000	262,179,000	19,986,000	110,141,000
Increase, 1936	46,415,000	37,526,000	.....	.....	48,663,000	†2,248,000	32,284,000	5,242,000	2,476,000
Increase, 1936	16.5%	13.3%	.....	.....	18.3%	†14.2%	12.3%	26.2%	2.2%
Lubricating Oils									
1936	22,805,000	23,286,000	481,000	2.1	22,803,000	2,000	16,956,000	6,330,000	6,544,000
1935	20,371,000	21,095,000	724,000	3.6	20,371,000	.....	14,769,000	6,326,000	6,607,000
Increase, 1936	2,434,000	2,191,000	.....	.....	2,432,000	2,000	2,187,000	4,000	†63,000
Increase, 1936	11.9%	10.4%	.....	.....	11.9%	.....	14.8%	0.1%	†1.0%
Petroleum Wax (Lbs.)									
1936	372,242,000	373,558,000	1,316,000	0.4	360,080,000	12,162,000	237,896,000	135,662,000	113,359,000
1935	346,293,000	350,869,000	4,576,000	1.3	329,000,000	17,293,000	189,955,000	160,914,000	131,560,000
Increase, 1936	25,949,000	22,689,000	.....	.....	31,080,000	†5,131,000	47,941,000	†25,252,000	†18,201,000
Increase, 1936	7.5%	6.5%	.....	.....	9.4%	†29.7%	25.2%	†15.7%	†13.8%

*Excess supply. †Decrease. ‡Crude oil only. §Includes finished, unfinished refinery gasoline and natural gasolines. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments.

Crude Oil Runs to Stills and Total All Oils (Bbls.)

First 9 months—	Total imports§	Total exports§	Total crude to stills	Per cent yield gasoline‡	Nat. gasoline production	Total supply all oils*	Total demand all oils*	Stocks all oils Sept. 30
1936	42,050,000	96,532,000	792,795,000	46.8	30,430,000	888,364,000	897,584,000	532,480,000
Daily average	153,000	352,000	2,893,000	....	111,000	3,242,000	3,276,000	.....
1935	40,331,000	93,377,000	712,939,000	47.0	28,032,000	800,291,000	810,852,000	553,587,000
Daily average	147,000	341,000	2,602,000	....	102,000	2,921,000	2,959,000	.....
Increase, 1936	1,719,000	3,155,000	79,856,000	....	2,398,000	88,073,000	86,732,000	†21,107,000
Increase, 1936	4.3%	3.4%	11.2%	....	8.6%	11.0%	10.7%	†3.8%

*Total all oils includes crude and refined products, natural gasoline and benzol. †Decrease. ‡Includes natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports.

W. J. COPPINGER

New Activity in Southern Kansas Area

By DAL DALRYMPLE

P. W. ANDERSON

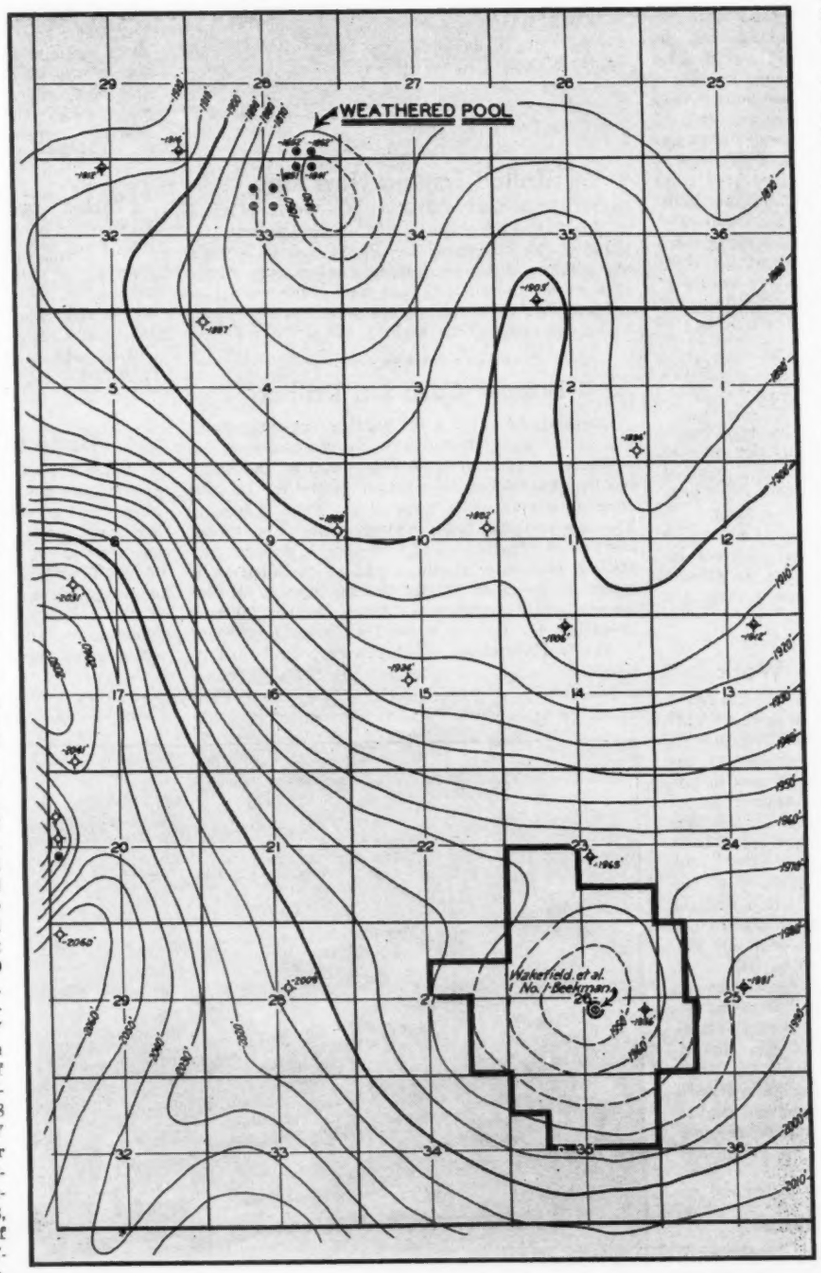
Southern Kansas oil and gas areas, overshadowed in recent months by sensational developments in the more active fields of the west central counties, are bidding for recognition in the petroleum world. Recent developments in Cowley, Sumner, Barber and Clark counties indicate that the southern districts will not be denied such recognition in the coming year.

The Wellington and Weathered pools of Sumner and Cowley counties, respectively, already rate among the more important producing areas, although still small. The Whelan pool of Barber County took on importance during the past week with the completion of a good producer, and the opening of a new oil pool in Clark County appeared imminent.

The Weathered pool was opened by Lloyd, Study & Frost of Wichita with the completion of No. 1 Weathered, SW SE SE section 28-31-3e, in August, 1935. It topped Siliceous lime at 3,339 feet; had a hole full of water at 3,405 feet, total depth; plugged back to 3,349 feet and produced 606 bbls. of oil and 70 bbls. of water, production later settling to 125 bbls. daily.

Six other producers have been completed in the pool, all larger than the discovery. The most recent completion, No. 3 McKinley, NW SW NE section 33-31-3e, was completed in Silicious lime at 3,295-3,305 feet, total depth, making potential of 2,030 bbls., pumping and flowing.

The second well in the pool was No. 1 Carson, NW NE NE section 33-31-3e, south offset to the discovery. It was completed in September, 1935, 3,357 feet in Siliceous lime, pumping 849 bbls. in 24 hours after acidizing. Other completions were as follows: No. 1 McKinley, NE NW NE section 33-31-3e, early in January, 1936, for potential of 1,630 bbls. after acidizing Siliceous lime, total depth, 3,338 feet; No. 2 Weathered, SE SW SE section 28, March, 1936, for 1,625 bbls. from lime at 3,326-35 feet, total depth; No. 2 McKinley, SW NW NE section 33, in May, 1936, for potential of 1,913 bbls. from lime at 3,297-3,306 feet, total depth; and No. 1 McKinley "B," SE NE NW section 33, in July, 1936, for potential of 1,913 bbls., total depth 3,315 feet. No. 2 McKinley "B," NE SE NW section 33, was drilling below 2,086 feet. All the Weathered wells are owned by Lloyd, Study & Frost, who have a block of about 2,200 acres. Because of the sole ownership of the area, development has been conservative, operators never having more than two wells drilling at one time.



Section of western Cowley County. Contours on surface of Mississippi lime, elevations below sea level. Geology by J. H. Page

Cowley County has been described facetiously by some persons as the "Graveyard of the wildcatters" because of the large number of dry holes drilled in the county, but the Weathered pool is doing much to offset that description. Weathered is located west of the Churchill pool and northwest of the once booming Oxford pool of Sumner County, and northwest of the Winfield area.

The accompanying map shows location of a new Cowley County wildcat in relation to Weathered. It is the Earl F. Wakefield and others No. 1 Beekman, NW NW SE section 26-32-3e, 4 miles due west of Winfield, in the center of a big block in which Sunray and Ohio Oil companies also are interested. The map was contoured on surface of Mississippi lime, with elevations below sea level. It shows several wildcats drilled nearby which had showings of oil. Geology was by J. H. Page, Tulsa. National Refining Co. also has a big block between the Wakefield block and Weathered pool, and the Texas Co., Empire Oil & Refining Co. and W. C. McBride, Inc., have blocks in the area included on the map.

The Whelan pool of Barber County to date has had no such record as that of Weathered, but it now is looking up as a result of the recent completion and promises to be one of the active areas during the next year.

Lario Oil & Gas Co. opened the Whelan pool in 1934 at No. 1 Whelan, C NW section 32-31-11w, then described as "wildest of wildcats," a short distance northwest of the town of Medicine Lodge. It had Chat at 4,355-4,435 feet, total depth; plugged back to 4,395 feet and swabbed 225 bbls. of oil and 425 bbls. of water. It then was plugged back to 4,384 feet, obtained water shutoff and was completed late in the year, making potential of 474 bbls. It now has potential rating of

(Continued on Page 22)

Pipe Line Activity

Michigan Gas Lines

MUSKEGON, Mich., Nov. 16.—West Michigan Consumers Co. last week completed a 14-mile pipe line and gathering system connecting three small Berea wells in the new Ravenna Township, Muskegon County, field to an industrial line serving Greater Muskegon factories. It was cut into the West Michigan distribution system from the old Muskegon field over the week-end with open flow capacity of more than 3,000,000 feet daily available, including a 500,000-foot natural flow from a fourth Berea gasser completed last week.

Move Gas Through Oil Line

SHREVEPORT, La., Nov. 16.—After experimenting for some time with a method of transporting both natural gas and crude oil through a 4-inch pipe line, the Shoreline Refining Co., with refining plant at Lewis, La., is now making delivery of as much as 4,000,000 feet of gas for fuel at the refinery from Rodessa, La., townsite wells. Having available at the Rodessa field wells an abundance of natural gas and needing both the crude oil and gas at the refinery it was decided to produce the wells into high-pressure traps and deliver the gas into the 4-inch line under trap pressure along with the oil. To separate the oil and gas at the refinery another pressure trap has been installed at the discharge end of the line at the Lewis refinery and the gas is separated from the oil and used as fuel around the refining plant while the oil goes to refinery storage. Because of the high well pressure and the relatively high pressure under which the separators at the wells operate it has been found practical to transport both oil and gas the 12-mile distance between Rodessa field and the Lewis refinery which lies to the south of the field.

Sligo Field Project

SHREVEPORT, La., Nov. 16.—Construction of a 6-inch pipe line from the Sligo district of Bossier Parish to Curtis, on the L. & A., about 4 miles, is being contemplated by Atlas Oil Corp., when other wells are completed in the field.

At present Atlas is taking oil from United Gas Public Service Co. No. 1-F Skannal discovery by trucks and loading it onto tankcars at Curtis. The company is paying regular posted price for that gravity oil.

Oklahoma Pipe Line Work

Oklahoma Pipe Line Co. is taking up its No. 3 8-inch line from Council Hill to Kinta, Okla. This line, laid in 1923, is 38 miles long. The pipe is being cleaned, spot welded, and beveled at the yard near Checotah. This pipe will be used in laying two loops on the northeast line. Approximately 15 miles will be laid from Little River Junction to Cromwell and another 15 miles from Hewitt to the foot of the Arbuckle Mountains.

The addition of these loops will increase the capacity of the northeast line so it will no longer be necessary to pump oil from Hewitt east to De-Queen and northwest to Glennpool station. The oil will move northeast from Hewitt to Glennpool.

A 37,000-bbl. tank will be constructed at Francis station. All of this work will be completed by January 1. The laying and taking up of the lines has been contracted and 20 miles of pipe has already been taken up.

Oklahoma Pipe Line Co. has also started work on tearing up 25 miles of No. 3 line from Smithville to the state line. This pipe will be reconditioned and stored on racks at Cove, Ark., and Gillham, Ark.

Filling Salt Creek Line

Stanolind Pipe Line Co. started on November 7 to fill the trunk line from Clayton tank farm where oil from Salt Creek field, Wyoming, has been stored, and it is estimated it will require from 30 to 40 days to completely fill this 8, 10 and 12-inch line. While this has been referred to as a gravity system because the intake end is much higher than the discharge end of the system it has been found necessary to build up as high as 850 pounds per square inch pressure to move any appreciable volume of this oil through the line. To accomplish this an auxiliary station was installed between Glendale and Fort Laramie, Wyo. Some work of reconditioning is still being done along the eastern end of the line.

Central Michigan Connection

MUSKEGON, Mich., Nov. 16.—A 12-mile 6-inch electric-welded line connecting all central Michigan fields except Ogemaw, Beaverton and Buckeye, the latter two in Gladwin County, with the Michigan-Toledo major line from the Crystal-Montcalm field to Toledo has been completed.

Shell Laying Winkler Line

FORT WORTH, Tex., Nov. 16.—Shell Pipe Line Co. is laying 75 miles of new 10-inch line from its Winkler County pump station to McCamey to increase its daily outlet from 35,000 to 50,000 bbls., replacing two 6-inch carriers which have been in use for about eight years.

United Laying New Line

SHREVEPORT, La., Nov. 14.—Work on laying a 12-inch line from its Myrtis gasoline plant to the plant of the Eastern Texas Production Co.'s townsite plant, a distance of about 4 miles, was started this week. United will take gas which cannot be utilized in the Eastern Texas plant for processing in its enlarged Myrtis plant.

Discuss Curb Oil Drilling

Methods of curbing or limiting excessive drilling in proven oil fields were discussed at an executive session of a subcommittee of the Independent Petroleum Association committee on balance of supply with demand in Tulsa Tuesday. The subcommittee began a study of legal, operating and engineering phases of excessive or unnecessary drilling and their findings will be included in a report to be made at the annual meeting of the association in Oklahoma City, November 30 and December 1.

R. E. Hardwicke of Hardwicke, Brelsford & Cheek, Fort Worth, is chairman of the subcommittee. Other members include Don R. Knowlton, Phillips Petroleum Co., Bartlesville, Okla.; C. E. Yeager, Texas Pacific Coal & Oil Co., Fort Worth; J. R. Pemberton, oil umpire, Los Angeles, Calif.; W. P. Z. German, Skelly Oil Co., Tulsa; Villard Martin, lawyer, Tulsa; A. S. Ritchie, McPherson Drilling Co., Wichita, Kans.; C. P. McGaha, Fain-McGaha Oil Corp., Wichita Falls, Tex., and Van S. Welch, Flynn, Welch & Yates, Inc., Artesia, N. Mex.

Refinery Projects

Shell Contracts for New Unit

SAN FRANCISCO, Calif., Nov. 14.—Shell Oil Co. has awarded a contract for the construction of a new distillation unit at its Martinez refinery to E. B. Badger & Sons Co. The total cost of the plant, which will be a vacuum unit for producing lubricating oils, will be approximately $375,000. It will be used to replace existing equipment.

Work on Talco Refinery Started

FORT WORTH, Tex., Nov. 14.—Premier Asphalt Co. is now excavating dirt from the site of its new refinery to be erected at Mount Pleasant, Tex., near the Talco pool. The plant will have a daily capacity of about 3,500 bbls. and will consist of an asphalt and cracking unit. Work is also well under way on the company's 15-mile 6-inch line from the pool to the refinery. The refinery is expected to be completed shortly after the first of the year.

Yuba Refinery to Be Reopened

HOUSTON, Tex., Nov. 14.—Seminole Oil Co., a new Southwest Texas concern, will reopen the plant of the Yuba Oil Refining Co., at Nacogdoches, Tex., after the plant had remained idle for some 14 months. The refinery has a daily capacity of 350 bbls. Crude from wells south of San Antonio will be used as charging stock. The new company is owned by J. S. Singleton and R. D. Dukes of Tyler, Tex.

Dixie to Start Construction

MUSKEGON, Mich., Nov. 14.—Construction of a new 4,000-bbl. refinery at Trenton, near Detroit, Mich., will be started next month by Dixie Refining Corp., a new $1,800,000 concern. The company has contracted for a daily supply of 3,500 bbls. of Mid-Continent crude. The plant is expected to be completed in about eight months. The output of the refinery will be marketed through Dixie Distributors, Inc., in Michigan and several other mid-western states.

SECOND LARGEST PIPE LINE JOB IN 1936

I. C. Little, the contractor who is laying the Cabot gas line into Rochester, New York, the biggest pipe line project under construction at present and the second largest laid in 1936

Natural Gasoline

Manhattan Operating New Plant

HOUSTON, Tex., Nov. 14.—Manhattan Gasoline Co., an affiliate of Refugio Refining Co. is now operating its new gasoline plant in the Plymouth field, near Stinton, Tex. Construction of the plant was started in early summer, the total cost of the plant being approximately $150,000. Gas capacity of the plant is 25,000,000 feet, producing some 12,000 gallons of natural daily. The gasoline produced is pumped through a pipe line to a loading rack on the Missouri Pacific Railroad.

Panhandle Proration

AUSTIN, Tex., Nov. 16.—Arguments in the appeal of the Railroad Commission to the U. S. Supreme Court on the right of the state to prorate production of natural gas in the Panhandle field will be presented at Washington November 18.

Assistant Attorney-General William Madden Hill and State Senator Clint Small will deliver the state's argument in the combined cases of Consolidated Gas Utilities Co. and Texoma Natural Gas Co.

The state was unsuccessful four times in trial court in an attempt to require pipe line connections.

Contract Let for Rodessa Plant

SHREVEPORT, La., Nov. 14.—Tentative plans for the construction of a $300,000 absorption gasoline plant on the Texas side of the Rodessa field have been announced by Dudley S. Golding and associates of Dallas. The plant will be situated on property of American Liberty Oil Co. in the J. H. Rives Survey, Cass County. Work on the plant, which will have a capacity of approximately 30,000 gallons daily, will be started in the next two months.

The plant will be operated by the Cass-Liberty Gasoline Co., with the following as officers: Mr. Golding, president; Paul M. Raigorodsky of Petroleum Engineering, Inc., Tulsa, vice president and general manager, and C. Maurice Jones, treasurer. Contract for the construction has been let to Petroleum Engineering, Inc.

ARNOLD H. EVANS
Superintendent, Natural Gasoline Corp., Galva, Kans.

Humble to Build New Plant

HOUSTON, Tex., Nov. 14.—Humble Oil & Refining Co. will construct a large gasoline plant at Tomball, Tex., for processing gas from the local wells, it was announced here yesterday. Clearing of the proposed site is now in progress.

Spacing Law Upheld

AUSTIN, Tex., Nov. 16.—The Third Court of Civil Appeals held that a court order directing the plugging of an oil well illegally drilled was not an invasion or interference with the powers and duties of the Railroad Commission which had granted the original permit, but in consonance with it. This judgment was entered in affirming the case of W. C. Turnbow and others versus Barnsdall Oil Co. and others from Travis County.

Mr. Turnbow originally applied to drill six wells on 2½ acres in Gregg County which had been voluntarily subdivided into six tracts and was refused. Later, without evidence, the commission granted two permits and Barnsdall and Humble, owners of adjoining leases, applied for injunctions and obtained them, but the two wells were drilled on a tract 200 by 545 feet. The court enjoined them and now the higher court upholds the lower court's order to plug them.

With reference to Rule 37 (the well-spacing rule), the court said:

"Rule 37, one of the cardinal rules of the commission adopted after extensive hearings as essential to conserve the natural resources of the state, has been repeatedly attacked by parties subject to its provisions. Its validity is no longer an open question."

Madison Hearings

At the request of the Department of Justice removal hearings involving six defendants indicted by the Madison grand jury were postponed until early December by U. S. Commissioner Smith at Tulsa on November 17. The regular session of the Federal District Court convenes at Madison in early December. The Madison cases can be called for trial at that time.

OBITUARIES

HARVEY QUIMBY HICKMAN, district manager of McIntosh and Seymour Corp., Houston, Tex., died recently after an illness of several weeks.

ROY SILENT, 46, member of the American Society of Mechanical Engineers, active in the American Petroleum Institute and chief engineer of Petroleum Securities Co., died in Los Angeles, Calif., following an operation.

ROY SILENT

WILLIAM ARGYLE KERR, 39, foreman of maintenance in the production department of Royalite Oil Co., died at Turner Valley recently. A native of Petrolia, Ontario, he completed two contracts with the Anglo-Persian Oil Co. in Persia and one in Venezuela before joining Royalite in 1928.

O. P. WOLCOTT, 32, of Houston, Tex., manager of the purchasing and traffic department of Wyatt Metal and Boiler Works, was fatally stricken on November 13 while visiting a friend in Dallas, Tex.

MAX HORSLEY, geologist for Maxmont Oils, Ltd., of Vancouver, British Columbia, and well known in the Alberta and Montana fields, died at Seattle, Wash., recently following an operation.

GOLDWYN M. CASE, 25, of Imperial Oil Refineries staff, died at Sarnia, Ontario.

Natural Gas

Grass Creek Gas Line

CASPER, Wyo., Nov. 16.—Mountain States Power Co. is tieing in its carrier from the Grass Creek field to Thermopolis with the Big Horn Gas Co. line from Buffalo Basin to Grass Creek. Big Horn company is increasing the 3 miles of pipe at the Grass Creek end to 8-inch from 3-inch. The Mountain States' line consists of 12 miles of 4½-inch pipe to Golden Eagle dome and 24 miles of 6-inch from Golden Eagle into Thermopolis.

Texas Hearing Postponed

AUSTIN, Tex., Nov. 16.—Pending final action on the Lone Star Gas Co. gate rate case by the Texas Supreme Court, the Railroad Commission postponed a hearing for six distributing companies who were ordered to show cause why they should pay more than 32 cents per 1,000 feet for natural gas received at more than 250 city gates.

Four of the distributing companies and Lone Star, as intervenor, filed an answer charging the commission would be in contempt of federal and state courts if it takes any action to enforce the four-year old order reducing Lone Star Gas Co. gate rates in more than 250 towns and cities. The case is pending in the Texas Supreme Court on Lone Star motion for rehearing. The distributing companies joining the answer are Texas Cities Gas Co., Community Natural Gas Co., County Gas Co. and Dallas Gas Co.

Moore County Hearing

AUSTIN, Tex., Nov. 16.—The Railroad Commission of Texas has called a hearing to be held in Austin Monday, November 30, on part of the Panhandle district.

The hearing is for the purpose of determining whether special rules, regulations, or orders shall be adopted for the prevention of waste in the following matters as they concern the Panhandle oil and gas field.

Evidence will be heard regarding Subdivision "G" of "Section 2" of house bill 266, as to its application in the Panhandle district, which reads as follows:

"(G) The term 'sour gas' shall mean any natural gas containing more than 1½ grains of hydrogen sulfide per 100 feet or more than 30 grains of total sulfur per 100 feet, or gas which in its natural state is found by the commission to be unfit for use in generating light or fuel for domestic purposes."

Evidence will be heard on the present method of allocation of crude petroleum oil to the oil wells in the Moore County division; on the present method of granting water exemptions on oil wells in the Moore County division; the present gas-oil ratio of producing oil wells in the Moore County division; and the present method of production and disposition of dry natural gas and casinghead gas in the Moore County division.

The Moore County area is at present a separate area from the Panhandle field proper for proration purposes.

SOME TANKERS DELAYED BY STRIKE BUT NO GENERAL TIEUP REPORTED

NEW YORK, Nov. 17.—Despite disruption of normal coastwise movement of tankers plying between Gulf Coast and North Atlantic ports the seamen's strike has not so far produced an acute shortage in any line of petroleum products. There are sufficient tankers sailing on only partially interrupted schedules to provide the required working stocks at Atlantic Coast terminals but stocks are being drawn upon and continuation of the partial blockade will result in serious shortage in products delivered by way of water. There is sufficient disruption, however, to cause keen concern over winter delivery of fuel oils particularly with heating requirements growing heavier.

LOS ANGELES, Calif., Nov. 16.—The marine strike is causing serious concern among executives of several marketing companies because of possibility the tanker fleets may ultimately become affected unless the situation is corrected. At present all tankers except those in dry dock are operating on schedule but practically every marketing company has taken the precaution of filling all tanks in distributing depots and marine terminals especially in areas dependant on uninterrupted water transportation. All major marketing companies and the larger independent refiners have accumulated approximately 30 days' supply of refined oil in possible vulnerable areas and are consequently in an advantageous position as any deficiency can be met by rail shipments even though transportation costs might be somewhat higher.

Standard Oil Co. is moving a large part of its current production and purchases in San Joaquin Valley to northern and southern terminals by water but if necessity demanded it could again begin using its San Joaquin Valley pipe line. This line, extending from Bakersfield in Kern County to Richmond refinery in the San Francisco Bay region, contrary to prevailing opinion has not been abandoned.

The strike has reduced gasoline and other refined oil consumption and marketers are hopeful the tieup will be concluded at an early date.

HOUSTON, Tex., Nov. 16.—The effect of the marine strike on tanker movement in the Houston and Sabine areas lessened today as sailings continued with some delays, many crews going back to ships, but the constant arrival of other vessels with a variable number of strikers makes the day-to-day situation unpredictable. Two tankers are idle in the Houston area today with mercantile shipping hardest hit by the tieup. To date 30 tankers are behind schedule, a small percentage of total traffic.

W. J. MORRIS ELECTED PRESIDENT BY EQUIPMENT ASSOCIATION

W. J. MORRIS

W. J. Morris, president of the Continental Supply Co., Dallas, Tex., was elected president of the American Petroleum Equipment Suppliers Association at a meeting of the association held last week in Chicago in conjunction with the seventeenth annual meeting of the American Petroleum Institute. He succeeds John A. Geismar, vice president and general manager of the National Supply Co., Toledo, Ohio. Other officers elected at the Chicago meeting were John M. Crawford, president of the Parkersburg Rig & Reel Co., Parkersburg, W. Va., vice president, and Wharton Weems of Houston, Tex., reelected secretary.

ETHYL GASOLINE STATEMENT

NEW YORK, Nov. 17.—The following telegram was sent today to all Ethyl Gasoline Corp. manufacturing licensees: "Our purpose in extending to our licensees the option of using the mean of the Motor Method and the Low-Temperature Method of octane rating for the evaluation of lead-treated fuels was to enable our licensees, if they so desired, to correct the inequalities shown to exist between the Motor Method ratings of fuels and their average performance in cars on the road, especially during intermediate and low atmospheric temperature conditions. Our meetings with licensees in Chicago evidenced two things: (1) There was no question about the validity of our data regarding the inequalities shown by our report to exist between the Motor Method ratings of fuels and their average performance in cars on the road, and (2) that a number of our licensees' laboratory ratings under the optional method are at substantial variance with those obtained in our laboratory and outlined in our report. In view of these variations in results we hereby suspend for 90 days the optional method of testing referred to in our letter of October 27 relative to the use of Q compound, such suspension to be effective as to all blends made after today. During this period of suspension we will cooperate with all interested parties in an effort to overcome the technical difficulties which appear to be involved in the practical application of the Low Temperature Test Method."

THE MARKETS*

CRUDE OIL: ***No changes in posted schedules with markets generally reported firm. Latest government reports show withdrawals from storage being made in several sections. Indicated heavy demand for crude over balance of year.***

REFINERY: ***Advance in Mid-Continent and Middle Western gasoline prices most important development. Gasoline prices firm at the Gulf. Minor chances in prices on all grades of fuels with sellers refusing to take on future business at present quotations.***

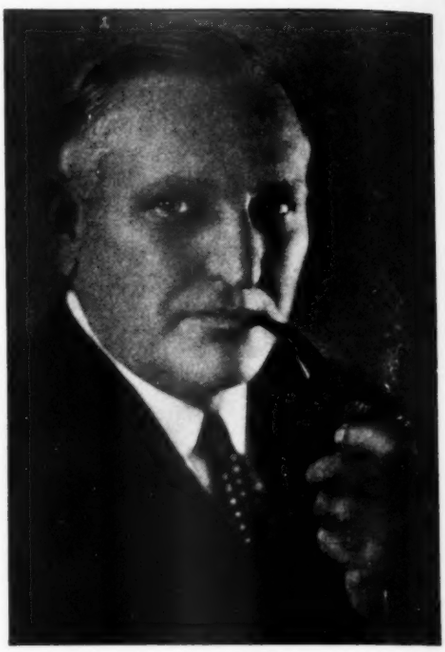
TANK-WAGON AND SERVICE STATION: ***No important changes in prices. Good tone to market and advances in prices at sub-normal points expected.***

FINANCIAL: ***Oil stocks reacted with general market and close on November 14 for 30 representative stocks was 1.98 lower than previous week which was the highest of the year. Average of 30 stocks for week ending November 14: High, 39.65; low, 37.33; close, 37.72. Week ending November 7: High, 39.75; low, 36.73; close, 39.11.***

**Detailed information in Market Section.*

A. W. LEONARD NEW PRESIDENT OF THE DEVONIAN OIL CO.

Archie W. Leonard was elected president of the Devonian Oil Co. at a meeting of the directors of the company held in Pittsburgh, Pa., on November 14. He succeeds the late Joseph H. Evans.



A. W. LEONARD

Mr. Leonard has been in the oil and gas business since his boyhood. He was a driller and contractor before he became a producer and an oil and gas executive. His father, the late J. R. Leonard, was a pioneer oil man and one of the founders of the Devonian Oil Co.

Archie W. Leonard has been vice president of the Oklahoma Natural Gas Corp., a director in the Chestnut & Smith Corp., vice president and general manager of the Devonian Oil Co. and president of the Natural Gas Association of America. His long experience was called upon when the gas line from the Texas Panhandle to the state of Indiana was being constructed, and he directed the work of crossing rivers and of overcoming other difficult hazards encountered in the big job. Personally he is one of the most widely known and highly regarded men in the industry.

OPPOSE FREIGHT RATE RAISE

WASHINGTON, D. C., Nov. 16.—A number of oil companies joined the National Coal Association in opposing increases in class and commodity freight rates asked to offset losses railroads would suffer on termination January 1 of emergency rate surcharges.

The companies were Atlantic Refining, Cities Service, Colonial Beacon, Cosden, Casco Oil, Empire, Freedom, Gulf, Indian Refining, Kanotex Refining, Lion, National Refining, Pure, Root Petroleum, Shell Union, Sinclair, Socony-Vacuum, Standard of Indiana, Kentucky, Louisiana, New Jersey and Pennsylvania, Sun, Texas and Tide Water.

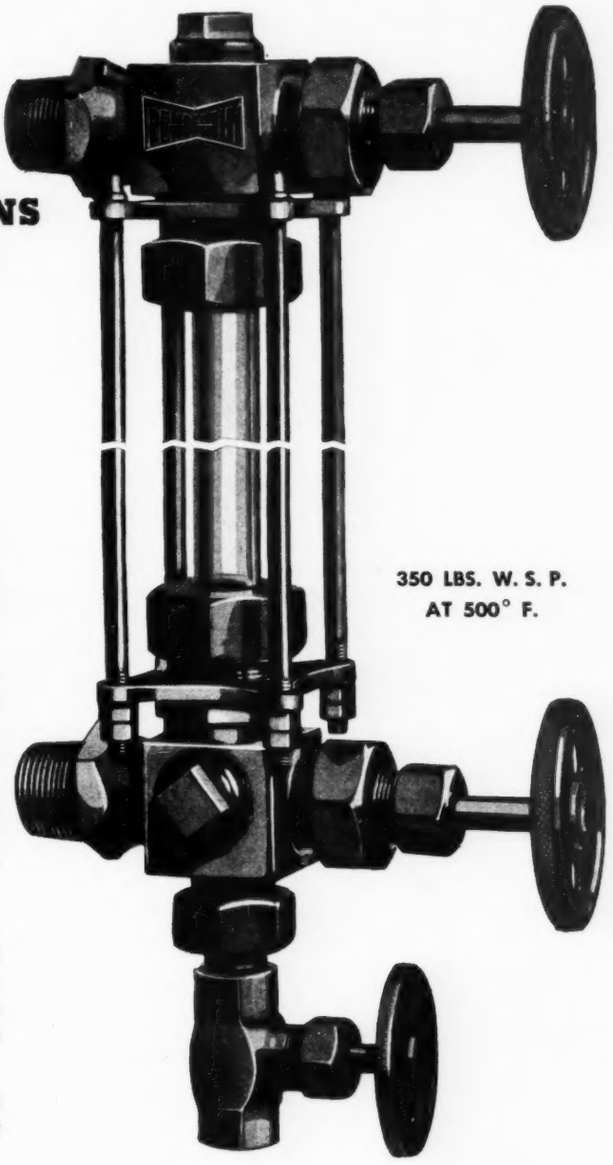
CANADIAN GAS PRODUCTION

OTTAWA, Ontario, Nov. 14.—Natural gas production from all Canadian fields in August was recorded at 1,140,433,000 feet compared with 1,210,414,000 feet in July and 1,054,043,000 feet in August, 1935. For the eight months period in 1936 the production totaled 18,159,602,000 feet against 16,408,714,000 in 1935, a gain of 10.7 per cent.

Imports of mixed (natural and artificial) gas into Canada in August totaled 9,729,000 feet valued at $5,837 against 10,720,000 feet worth $7,383 in July.

★ NAVY TYPE ★

EXTRA HEAVY WATER GAGE



CONFORMS WITH NAVY SPECIFICATIONS AND A. S. M. E. BOILER CODE

PENBERTHY PRODUCTS

HERE is a water and liquid level gage that has no superior in design, materials and workmanship. It is used where only the best is good enough—and it has frequently proved the least expensive in the long run.

Ball type safety valves are located in each gage arm to automatically and positively close when the glass is broken. Ball in lower valve must be lifted to seat and cannot close unless glass breaks; this absolutely prevents a false water level from being shown. The shut-off valves are arranged for easy regrinding. Packing glands prevent any torsional stress on glass when packing nuts are drawn down.

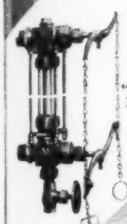
The gage arms are self-cleaning. The glass is offset from stems for cleaning from either end without loosening glass packing or valves. A separate drain valve, union nut and tail are furnished; valve can be connected directly to gage or placed wherever most convenient.

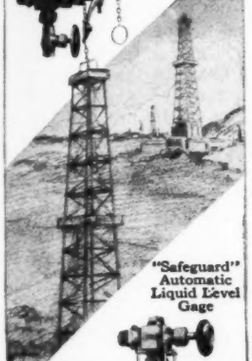
The "Navy Type", like other Penberthy water and liquid level gages, is carried in stock by supply houses everywhere.

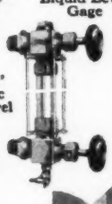
350 LBS. W. S. P. AT 500° F.

Automatic Injector

Ejector, Syphon or Jet Pump


"Navy Type" Liquid Level Gage




"Safeguard" Automatic Liquid Level Gage

"All-Iron" Automatic Liquid Level Gage

Gas Engine Lubricator

Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup

Screw Plunger Grease Cup

Spring Compression Grease Cup

Automatic Electric Sump Pump

Automatic Cellar Drainer (Water or Steam Operated)

Dipless Air Cock

PENBERTHY INJECTOR COMPANY

DETROIT, MICHIGAN · *Manufacturers of Quality Products Since 1886* · WINDSOR, ONTARIO

Coastal Louisiana

(Continued from Page 11)

low, piercement type, was discovered in early geophysical exploration during 1927, 1928 and 1929. Production was opened in 1929 in a sand on top the dome. With the exception of a few scattered deep tests development was confined to this sand and when the limits of this production was proved up, further exploration ceased except for an occasional test. Late last year Pan American Production Co. became interested in the potentialities of flank production acquired a block of acreage along the west side, and in its first test completed a good producer in a sand at 4,900 feet. Two tests, farther out from the dome and drilled because of lease obligations, proved dry but since two additional producers have been brought in near the discovery. This interested Texas Co. and Gulf Oil Corp. in flank sand production, and these companies have been carrying on exploration off the sides of the dome.

Jennings (Evangeline), Acadia Parish, the oldest field in Coastal Louisiana, and second oldest on the Gulf Coast, following closely the discovery of Spindletop in 1901, also has come back into the play. This field, in development of its shallow sands overlying the dome, yielded some of the most prolific production on the Gulf Coast, and up to July 1 a total of 45,732,344 bbls. of oil had been produced. The boom which followed the discovery of oil in 1902 played out after several years in which the shallow sand received intensive drilling, and then, except for occasional new drilling, mostly shallow, the field was inactive until 1929 when Yount-Lee Oil Co. in a test drilled off the southeast side found production in a sand at 7,400-7,500 feet, the deepest production on the Gulf Coast at that time. That company kept up a tedious, routine development of the deep sands, and this has been continued by Stanolind Oil & Gas Co., which took over properties of Yount-Lee Oil Co. a little over a year ago.

Last summer Shell Petroleum Corp., in attempting to explore further flank sand potentialities at Jennings, moved around on the south side and opened production in an Oligocene sand at a total depth of 7,545 feet. This was followed in October by Superior Oil Producing Co. completing a well on a recently acquired lease on the west side in an Oligocene sand at a total depth of 6,380 feet. This has opened the way for additional drilling around the west and south sides in developing these sands, which may extend all around the dome.

More recently, Superior Oil Producing Co. has started a deep test off the sand side of the West (Old) Hackberry dome, Cameron Parish, one of the oldest domes on the Gulf Coast. Many tests, mostly shallow, were drilled before commercial production was opened in 1928. Two or three pools were opened in comparatively shallow sands and an active drilling play resulted. However, this was confined to very small areas and failed to produce anything of importance. Some deep drilling has been done around the east and north sides but nothing of importance has materialized so the present deep test on the south is looked upon with general interest.

Vinton and Edgerly are two other old fields which have figured lately in lease deals and around which new drilling is expected. Very little deep drilling has been done around either. All production has been shallow. New exploration also is under way at Sorrento, Bayou Blue and other domes of that type, on which only small production has been obtained. At Bayou Blue, Humble Oil & Refining Co. has attempted to continue development, taking it over from Standard Oil Co. of Louisiana, which discovered the field.

That this play is directed more to the old domes and fields of Coastal Louisiana rather than those in Coastal Texas is because acreage on and around the old fields and domes in Texas has been more tightly held and there are not so many opportunities for new companies coming into the Gulf Coast to go back on them. The Texas domes and fields also have received more drilling exploration. At the same time, the more lenient proration restrictions in Louisiana are conducive for new work in that state.

PROVED SALT DOMES IN COASTAL LOUISIANA

Fields and domes; parish—	Total prod. to July 1 (bbls.)	Present prod. (bbls.)†	No. prod. wells	Tests drilling	Year prod. disc.
Anse La Butte, St. Martin	998,342	80	4	0	1902
Avery Island, Iberia	0	0	0	0	....
Bay Junop,* Terrebonne	0	0	0	0	....
Bay St. Elaine, Terrebonne	Gas	0	0	0	1929
Bayou Blue, Iberville	75,745	0	0	1	1929
Bayou Bouillon, St. Martin	439,837	60	1	0	1928
Bayou DesGlaise, Iberville	0	0	0	0	....
Belle Isle, St. Marys	0	0	0	0	....
Black Bayou, Cameron	2,876,142	3,002	15	1	1929
Caillou Island, Terrebonne	6,807,087	16,944	25	2	1930
Calcasieu Lake, Cameron	0	0	0	0	....
Cameron Meadows,* Cameron	2,640,299	4,438	25	2	1931
Chacahoula, Lafourche	0	0	0	0	....
Choctaw, Iberville	1,129,973	900	6	1	1931
Cote Blanche, St. Marys	0	0	0	0	....
Darrow,* Ascension	482,484	1,669	6	1	1933
Dog Lake, Terrebonne	149,409	1,034	2	0	1929
Edgerly, Calcasieu	9,244,151	206	18	0	1913
Fausse Point, Iberia	1,737	0	0	1	1928
Four Isle, Terrebonne	94,370	21	1	0	1934
Garden Island Bay, Plaquemines	305,005	348	2	0	1935
Gueydan,* Vermilion	608,470	199	4	0	1932
Hackberry (East), Cameron	12,955,793	8,147	46	3	1927
Hackberry (West), Cameron	2,302,518	451	21	5	1928
Hester,* St. James	0	0	0	1	....
Jefferson Island, Iberia	0	0	0	1	....
Jennings, Acadia	45,732,344	2,875	48	3	1902
Lake Barre, Terrebonne	13,766,930	5,872	21	1	1929
Lake Hermitage, Plaquemines	23,537	61	2	1	1934
Lake Mongoulois, St. Martin	0	0	0	0	....
Lake Pelto, Terrebonne	375,056	0	1	1	1929
Lake Washington, Plaquemines	1,447,599	1,161	10	0	1931
Leesville, Lafourche	12,572,282	15,989	91	3	1931
Napoleonville, Assumption	0	0	0	0	....
New Iberia, Iberia	1,201,504	9,165	15	12	1917
Pine Prairie, Evangeline	20,000	0	0	0	1912
Port Barre, St. Landry	5,748,051	1,891	28	1	1929
Section 28, St. Martin	0	0	0	0	....
Sorrento, Ascension	672,804	340	3	1	1928
Starks, Calcasieu	2,315,466	440	18	1	1927
Sulphur, Calcasieu	8,971,430	5,123	56	3	1926
Valentine,* Lafourche	0	0	0	0	....
Venice, Plaquemines	0	0	0	0	....
Vermilion Bay, Iberia	0	0	0	0	....
Vinton, Calcasieu	43,258,348	1,675	81	0	1910
Weeks Island, Iberia	0	0	0	0	....
Welsh,* Jefferson Davis	559,321	35	17	0	1903
White Castle, Iberville	1,573,669	1,750	8	1	1929
Total 48 domes and fields	179,349,703	83,875	575	48	

*Deeply seated domes. In case of Welsh no salt yet drilled. †Daily average production week ending November 7. Number of wells based on week November 7.

Southern Kansas

(Continued from Page 17)

215 bbls. The Lario company next drilled No. 2 Whelan at C SE NW section 32-31-11w, abandoning it in September, 1935, after failing to find production. It had Siliceous lime at 4,939-75 feet, total depth, dry; was plugged back to 4,340 feet, without results.

BIG BLOCK ASSEMBLED

The failure did not discourage P. W. Anderson, geologist, and W. J. Coppinger, of Wichita and Medicine Lodge, who had done considerable work in Barber County and believed the Whelan pool would prove to be a profitable producing area. With Mr. Anderson working out the geology and Mr. Coppinger looking after the lease work, they assembled a block of about 6,000 acres in a checkerboard spread north and east of Medicine Lodge. They also obtained one-half interest in an additional 2,000 acres. They then went to New York and interested financiers of that city in the project. As a result, the Vaccars Corp. was formed with Harry M. Carpenter, New York, president; and Harold Valentine and Sam Sayre, of New York, and Anderson and Coppinger as members of the firm.

Formation of the new oil company was followed last July with the spudding of Vaccars Corp. No. 1 Swartz, SE cor. section 30-31-11w, northwest of the Whelan discovery well. It topped Chat at 4,304 feet and had pay at 4,315-16 feet, where it showed for 40 bbls. of oil an hour, production later increasing. Operators then went in with a Rowe underdigger, deepened to 4,318 feet and completed the well last week. It made potential of 1,164 bbls. of oil in 24 hours, down six hours because of insufficient storage. The Whelan oil is being taken out by tankcar, there being no pipe lines in the area. Operators were expected to start another well in the near future.

Another Barber County well that is being watched closely is the Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. section 1-33-15w, south and west of the Whelan area. At last report it was drilling at 5,395 feet in Siliceous lime. Several rainbow shows of oil were reported. On the other side of Barber County, Pure Oil Co. was building rig for a wildcat at No. 1 Palmer, SE NE SW section 10-33-10w, southeast from the Whelan pool.

CLARK COUNTY STRIKE

Two counties west of Barber County, Olson Oil Co. appears about to open the most southwesterly oil pool in Kansas at No. 3 Morrison, C SE SW section 17-32-21w, Clark County. It topped Viola lime at 6,468 feet, was bottomed at 6,481 feet, set pipe and was preparing to test. Estimates of production ranged as high as 2,000 bbls. daily. Before erecting tanks and installing separator, it swabbed 60 bbls. an hour through 2-inch tubing for six hours, with the oil flow level gaining throughout the swabbing period. Later, it swabbed 180 bbls. in four hours, and the hole was thought to have bridged. The oil is 38.8 gravity at 59 degrees. The well is about 60 miles from the nearest production.

The No. 2 Morrison, drilled by Watchorn Oil & Gas Co. at C NW NE section 20-32-21w, had oil showing in Viola lime and Wilcox sand, but was dry in Siliceous lime at 6,906 feet, total depth. The No. 1 Morrison was a 20,000,000-foot gas well in Mississippi lime at 5,679 feet. The Olson and Watchorn companies also completed a gas well at No. 1 Stephens, C NW NW section 21-32-21w, and sold gas for several months, but later deepened the well to 6,801 feet and it was dry and abandoned in 1935. It also had showings of oil.

The search for oil in Clark County began in 1923, when the first well was drilled, and several tests since have been drilled, but the Olson discovery well is the first from which oil has actually been produced, although most of the other tests have had showings. The Olson company has about 6,000 acres in its block, and the Watchorn company has adjacent acreage.

These recent developments apparently assure a busy drilling campaign for the southern counties during 1937.

Texas Division Annual Meeting

DALLAS, Tex., Nov. 16. — The Mid-Continent Oil and Gas Association of Texas will hold its annual convention at Houston, Friday, December 4.

A business session will be held in the main ballroom of the Lamar Hotel, Friday morning to be addressed by Dr. Gus Dyer, economist of Vanderbilt University, Nashville, Tenn. Several members of the association who have performed outstanding service in behalf of the Texas oil industry will receive distinguished service awards, presented by J. D. Collett, president of the General Mid-Continent Oil and Gas Association, and George A. Hill, Jr., president of Houston Oil Co.

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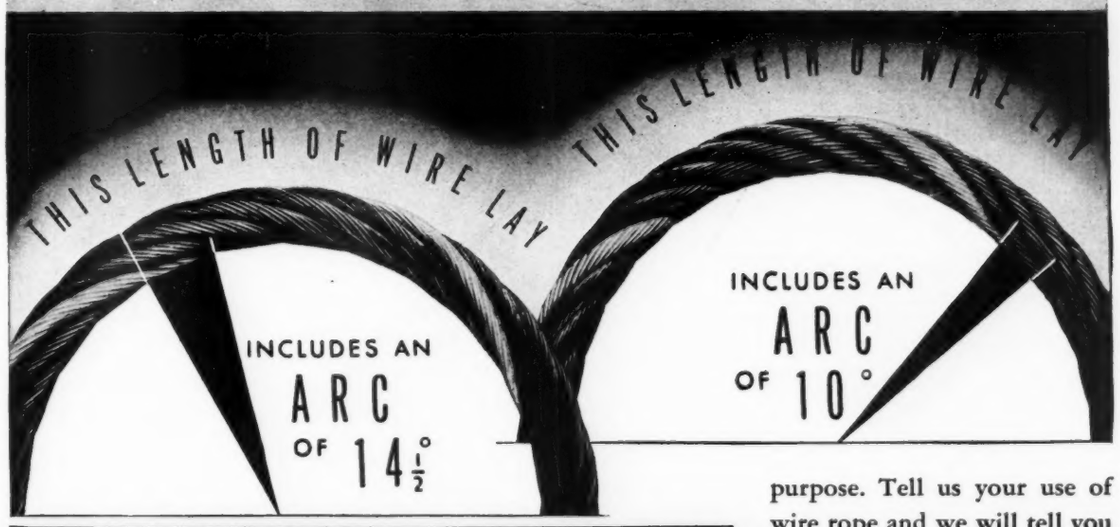

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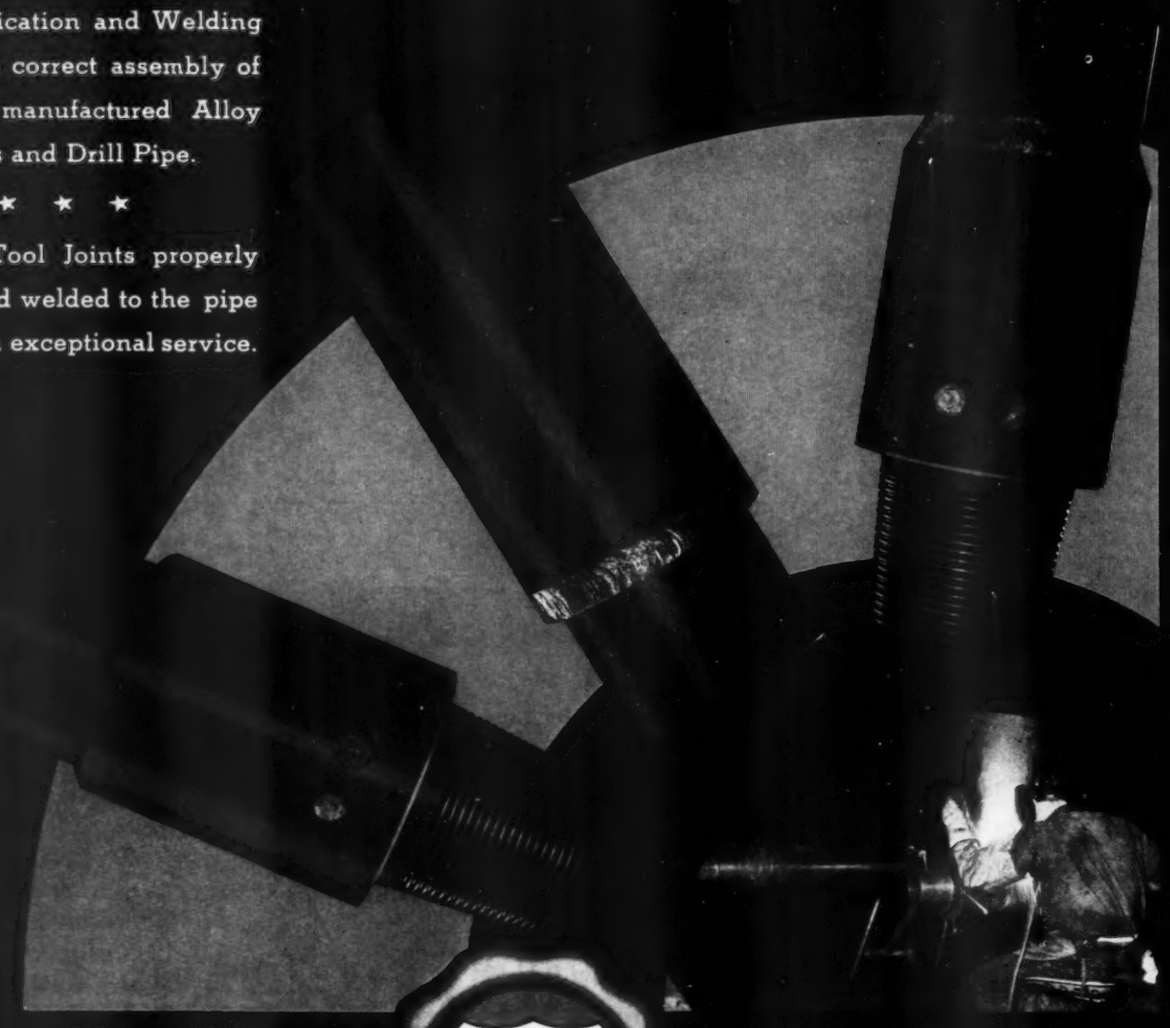

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Western Kansas' High Record for Wildcat Oil Discoveries

In an area of over 53,000 square miles in what is called "western" Kansas lies the principal hope of operators in that state for future new oil and gas fields. It is an area larger than the state of New York and larger than the country of England. It lies west of the meridian which passes through the city of Wichita, in Sedgwick County. There will be discoveries east of the meridian, of course, but the eastern part of the state has been explored and exploited for 70 years and it is left to the central west and western counties to provide the future thrills that go with oil and gas discoveries.

Already 1,190 wildcat tests have been drilled in 57 of the 62 counties in that part of the state under discussion, and the result has been the discovery of 177 oil pools in 40 counties and 40 gas pools in 18 counties. These oil and gas discoveries are listed fully in the succeeding three pages of this issue. It is a valuable compilation, made after much research and careful checking by W. J. Mattenly of Tulsa, and brought down to November 1 of this year.

Since the first discovery west of the meridian in 1922 there has been an almost steady increase in the percentage of successful wildcat tests. In the first 10 months of this year 180 wildcats were drilled of which 45 or 25 per cent resulted in the discovery of oil pools and 8, or 4 per cent, resulted in the opening of gas pools. The percentage of failures was 71.

Notable is the fact that of the 129 wildcats drilled in Russell County, 43 or exactly one-third, have discovered oil, while the results in Rice and Ellis counties have been almost as good.

In addition to the discovery of 217 oil and gas pools in what we will call for convenience western Kansas, 63 other exploratory tests resulted in 50 discoveries of oil and 13 discoveries of gas in horizons other than those theretofore producing in their respective pools, making a total of 280 discoveries in 14 years.

The discoveries range in geological sequence from the Big Blue of Permian age to the Arbuckle of Ordovician age, and in depth from 610 feet to 6,487 feet. The initial volume of gas production ranged up to 75,000,000 cubic feet while the initial production ranges upward to 4,076 bbls. per day as shown by official potential tests. Many wells in pools exceeded the discovery wells in initial production. One well in the Hauschild pool in Rice County established an official potential of 15,439 bbls. per day and all subsequent wells in the Lerado pool in Reno County eclipsed the discovery well in initial production.

IMPORTANT DISCOVERIES

The story of important discoveries, told in chronological order, may be summed up as follows:

1922—Discovery of first gas, in Seward County.

1923—Discovery of first oil, Fairport, Russell County.

1924—Discovery of first oil from Mississippian and first oil in Reno County, Welch pool.

1926—Discovery of gas in McPherson County, McPherson gas field. Discovery of first Kansas City Lime production and first production in Kingman County, Kingman pool. Offsets and surrounding wells were failures and this remained a one-well pool until abondonment in 1927. Fourteen dry holes were completed in Kingman County during this and the succeeding year.

1927—Discovery of first production in Reno County, Abbyville pool. Discovery of first production in Rooks County and extending the oil frontier to the northwest, Laton pool. Discovery of first Wilcox production, Douglas, Sumner County. Offsets and nearby wells were failures and this remained a one-well pool until abandonment in 1930.

1928—Discovery of first Viola production, Valley Center, Sedgwick County. Discovery of first Arbuckle production, Shutts pool, Ellis County, although the significance was not realized at the time. Later Arbuckle production was found in 87 pools. Discovery of first Pennsylvanian Basal Conglomerate production, Gorham pool, Russell County. Discovery of first oil in Mississippi Lime-Chat, first oil in McPherson County, and first oil on the McPherson anticline which later produced gas from Permian, oil and gas from Pennsylvanian. and oil from Mississippian, Siluro-Devonian and Ordovician horizons, and from 10 pools extending from McPherson, north McPherson County, to Haven, south Reno County.

1929—Discovery of Voshell and Ritz pools, McPherson County, resulting in the drilling of 190 wells during late 1929 and 1930, and 166 wells in each 1931 and 1932. Discovery of first production on Ellsworth Arch, and first production in Rice County, Raymond. Discovery of prolific production from Wilcox, Caldwell, Sumner County.

ARBUCKLE LIME DISCOVERY

1930—Discovery of first Arbuckle production on Ellsworth Arch, at Raymond, Rice County, followed by discovery of Arbuckle production at Heiken, Ellsworth County, and Ploog, Rice County. Discovery of first production in Stafford County, Richardson pool. Discovery of Arbuckle production on McPherson anticline, Voshell pool, McPherson County. Discovery of Viola production at Ritz, McPherson County. Discovery of gas in Mississippi Lime-Chat at Haury, Reno County, extending production on McPherson anticline 10 miles southwest. Extension of Permian gas area from Stevens to Grant and Morton counties, a market having been provided in 1929.

1931—Discovery of first Hunton production in Kansas, Hollow, Harvey County. Discovery of four Arbuckle pools in the Barton-Rice-Ellsworth area at Stratmann, Stoltenberg, Beyer and Sharpe. Discovery of Kansas City Lime production at Cunningham, Kingman County.

1932—Discovery of five additional pools in the Barton-Rice-Ellsworth area at Ellinwood, Steckel, Orth, Chase townsite and Breford. Discovery of Hunton production at Nikkel, McPherson County.

1933—Discovery of Wilcox production in Hollow, Harvey County, theretofore producing Kansas City Lime, Mississippi Lime-Chat and Hunton.

1934—Discovery of Hunton production at Burrton, Reno County. Discovery of prolific Arbuckle and Oswald production at Russell townsite, bringing about a revival of activity in Russell and Ellis counties. Discovery of Hunton production at Graber, McPherson County, while not considered particularly significant at the time, now promises to prove important. Discovery of Mississippi Lime production at Shallow Water, Scott County, pushing the oil frontier westward about 60 miles.

1935—Discovery of 15 oil pools in Russell, and three oil pools in Ellis County. Discovery of prolific production from Viola at Lerado, Reno County.

1936—Discovery of prolific flowing production from Mississippi Lime-Chat or Conglomerate at Hauschild, Rice County, one well having established a potential of 15,439 bbls. per day, and discovery of Saxman pool nearby. Discovery of 13 oil pools in Russell, and nine oil pools in Ellis County. Discovery of Arbuckle production at Thompson, Ness County. This is first Arbuckle production west of Stockton anticline. Discovery of first oil production in Clark County, and deepest oil production in Kansas, at a depth of 6,467 feet in Viola, Morrison. Discovery of first Tarkio production in western Kansas, in three pools in Russell County.

PRODUCING FORMATIONS

The producing formations listed in the accompanying table either by name or by symbol are described by the compiler of the report as follows:

Big Blue—A geologic series of Permian age in member formations of which gas has been found over a wide area, principally in the Herington, Winfield, Fort Riley and Wreford limestones and Florence flint. No oil has been encountered.

Wabaunsee — A geologic group of the Virgil series, Pennsylvanian age in member formations of which gas has been found, believed to be principally Howard limestone and Severy shale.

Tarkio—A blue-gray to brown limestone of Wabaunsee group, Virgil series, Pensylvanian age which has been found productive of oil over a small area in Russell County.

Topeka—A blue-gray to dark gray limestone of the Sahwnee group, Virgil series, Pennsylvanian age, which has been found productive of oil in Russell and Ellis counties, and gas in Sumner County.

Oswald—Ten zones or porous streaks in the Lansing-Kansas City Lime, Missouri series, Pennsylvanian age have been found productive of oil in Ellis, Rooks, Russell and Trego counties, and are generally referred to as "Oswald."

KC Lime—Porous streaks in the Kansas City Lime, Missouri series, Pennsylvanian age, have been found productive of oil in an area extending from Ellsworth County on the north to Sumner County, from Sedgwick County on the east to Stafford County, and have been found productive of gas in Rice County.

PBC—A contact deposit marking the zone of unconformity between the Pennsylvanian and older rocks, and composed of sand, vari-colored limestone, vari-colored shale, dolomite and flint, has been found productive of oil and gas over a wide area. It is referred to as Pennsylvanian Basal Conglomerate or "Conglomerate." In some areas it is almost entirely sandstone and in such areas is commonly referred to as "Gorham sand."

ML-Chat—The cherty residual, weather surface of the Mississippi limestone, Mississippian age, as well as porous horizons in the lime proper have been found productive of both oil and gas.

Misener—A true sand of Mississippian age (series questionable), found productive of oil in one well at Valley Center, and not elsewhere. It lies at base of Chattanooga shale.

Hunton—A limestone of Siluro-Devonian age which has been found productive of oil in Harvey, McPherson and Reno counties.

Viola — The formations often referred to as Simpson dolomite and Viola lime, in western Kansas, are now generally considered to be one and the same, and are often referred to as Bromide dolomite. Generally this horizon at Valley Center has been referred to as "Simpson," while the corresponding horizon in other areas has been referred to as "Viola lime."

Wilcox—A true sand member of the Simpson formation, Ordovician age. Has been found productive of oil in Harvey, McPherson, Rice and Sumner counties.

Arbuckle—A light gray, white and buff crystalline dolomite, chert and some sandstone lying at or near the lowest part of the section throughout western Kansas. Commonly called "Siliceous lime."

The formations referred to as ML-Chat, Misener, Hunton, Viola and Wilcox are absent on the Barton (central Kansas) uplift.

DISCOVERY WELLS IN WESTERN KANSAS—TO NOVEMBER 1, 1936

Including All Wells Establishing Oil Potential or Finding Gas in Usable Quantities Whether or Not Produced Commercially

Field or pool—	Discoverer—	Well No.	Lease name	Location: In section	Location: S.-T.-R.	Month and year of discovery	Formation or horizon: Name	Formation or horizon: Top	Formation or horizon: Bottom	Initial Capacity	Remarks—
Barber County:											
Medicine Lodge Gas	Shaffer Oil & Refining Co.	1	Alexander	NW SE	13-33-13	Jan. 1927	PBC	4440	4447	5 Mcf	First marketed 1929.
Whelan	Lario Oil & Gas Co.	1	Whelan	C NW	32-31-11	Aug. 1934	ML-Chat	4355	4384 pb	231a	Gravity 27. TD 4,435 ft. 180 water.
Aetna Gas	Southern Drilling Co.	1	Davis	SW NE	13-34-15	July 1935	Viola	5215	5260 pb	5 Mcf	TD 5,394 ft. Acidized.
Barton County:											
Davidson	Prairie Oil & Gas Co.	1	Davidson	NW SE	4-16-11	Mar. 1930	Arbuckle	3314	3338 pb	192n	TD 3,340 ft. 7 water.
Isern	Hilligoss et al	1	Isern	SW SE NE	12-20-11	Nov. 1931	Arbuckle	3309	3328	1023sw	
Ellinwood	Midwest Refining Co.	1	Schueffler	C SW SE	9-20-11	July 1932	Arbuckle	3304	3324	648sw	
Straub	Atlantic Oil Producing Co.	1	Straub	C SE NW	36-18-11	Aug. 1934	Arbuckle	3286	3310	45a	Gravity 40. 15 water.
Lanterman	Murphin & Davis	1	Lanterman	NW SE	15-19-11	Oct. 1934	Arbuckle	3332	3355	199a	Gravity 42.
Beaver	Darby Petroleum Corp.	1	Jarus	NW SW NE	16-16-12	Nov. 1934	Arbuckle	3348	3351	596n	Gravity 38. 4% water. No acid.
Albert	Treleaven & Brimm	1	Haas	SWc	30-18-15	Jan. 1935	PBC	3601	3616	320f	Pay 3,603-06 ft.
Beaver	Darby Petroleum Corp.	2	Jarus	SW NW NE	16-16-12	Apr. 1935	PBC	3335	3341	926n	
Eberhardt	Downing-Stanolind et al	1	Eberhardt	SEc	14-19-11	June 1935	Arbuckle	3311	3360	162a	
Heizer	Rush Petroleum Co.-Skelton	1	Ott	C SE SE	16-19-14	Aug. 1935	KC Lime	3228	3253 pb	149a	TD 3,706 ft. 3 M gal. acid.
Feist	Torrey & Feaster	1	Feist	NE SE	29-18-11	Dec. 1935	Arbuckle	3430	3433	576a	
Peter	Lario Oil & Gas Co.	1	Peter	NWc	24-20-11	Dec. 1935	Arbuckle	3273	3291	1368a	Pay 3,274-84 ft. 535n.
Bloomer	Yarnell, Carlson & Spencer	1	Bloomer	NE NW	36-17-11	Feb. 1936	Arbuckle	3257	3281	2117a	Gravity 44. Pay at 3,271 ft.
Hiss	Simpson-Noble Drilling Co.	1	Hiss	C NW NE	31-20-13	May 1936	KC Lime	3205	3285	1316a	Pay at 3,270 ft.
Langfeld	Buchanan & Alexander	1	Langfeld	NE SW	14-20-11	May 1936	Arbuckle	3286	3300	1320a	Acid 3 M gal.
East Albert Gas	Schermerhorn Oil Co.	1	Hunter	NEc	29-18-15	Aug. 1936	PBC	3486	3518 pb	39 Mcf	Total depth 3,576 ft.
Rick	Rose Spring Drilling Co.	1	Rick	SWc	1-19-11	Aug. 1936	Arbuckle	3321	3355	937a	Pay at 3,353 ft. 4 M gal. acid.
Clark County:											
Morrison Gas	Watchorn Oil & Gas Co.	3	Stephens	C NW NW	21-32-21	Nov. 1928	PBC	5443	5475	20 Mcf	First marketed August 1929.
Morrison	Olson Oil Co.	1	Morrison	C SE SW	17-32-21	Oct. 1936	Viola	6467	6481	?	Flowing, no gauge. Not completed.
Edwards County:											
McCarty Gas	British American Oil Co.	1	McCarty	NE NW	31-25-17	May 1929	PBC	4535	4545	15 Mcf	First marketed October 1929.
McCarty	British American Oil Co.	1	McCarty	NE NW	31-25-17	May 1929	PBC	4535	4571	60f	Gravity 35. TD 4,608 ft.
Ellis County:											
Shutts	Phillips Petroleum Co.	1	Shutts	C NE	5-12-17	Nov. 1928	Arbuckle	3569	3575	290n	Gravity 33.5. First produced July 1929.
Yocemento	Phillips Petroleum Co.	1	Sophus Johnson	SW NE	9-13-19	June 2929	Oswald	3592	3597 pb	480n	Gravity 33. TD 3,684 ft.
Hadley	Burgher Oil Co.	1	Hadley	NW NW	20-11-17	Aug. 1929	PBC	3428	3440	120n	Gravity 29.
Shutts	Phillips Petroleum Co.	1	Kessler	NEc	32-11-17	Sept. 1930	Oswald	3280	3284	480n	Gravity 33.
Ruder	Palmer & Stormking Oil Co.	1	Ruder	SE NE NW	17-15-18	Aug. 1935	Oswald	3243	3440	818a	First pay at 3,422 ft.
Bemis	Louis Roark et al	1	Bemis	C SE SE	16-11-17	Oct. 1935	Topeka	3032	3040	631a	Pay at 3,035 ft. 105n in 18 hours.
Victoria	Twin Drilling Co.	1	Goetz	SW SE	3-14-17	Dec. 1935	Oswald	3273	3303	928a	Pay at 3,298 ft. 215n. Acid 3 M gal.
Ruder	Palmer & Stormking Oil Co.	2	Ruder	NW NE	17-15-18	Dec. 1935	Arbuckle	3572	3582 pb	1320a	TD 3,585 ft.
Bemis	Margay Oil Co.	1A	Bemis	SWc	15-11-17	Apr. 1936	Arbuckle	3380	3382	1353n	
Walters	Lario Oil & Gas Co.	1	Walters	SE NE SW	2-12-18	May 1936	Topeka	3030	3165	1159a	Gravity 40. Pay 3,160 ft. Acid 1 M gal.
Bemis, South	Uscan & Winkler-Koch	1	Hadley	SE NE	21-11-17	May 1936	Arbuckle	3344	3360	2037a	Pay at 3,350 ft.
Victoria	Twin Drilling Co.	2	Goetz	NE SW SE	3-14-17	June 1936	Arbuckle	3512	3560	412a	Gravity 33. 4 M gal. acid.
Solomon	Jones Brothers Drilling Co.	1	Solomon	SE SW	28-11-19	June 1936	Arbuckle	3629	3632	600n	
Catherine	Harris & Haun	1	Schmeidler	SE SW	3-13-17	June 1936	Oswald	3274	3362	676a	Gravity 34. 5 M gal. acid.
Madden	Bridgeport Machine Co.	1	Madden	NE NW NW	26-15-18	June 1936	Oswald	3260	3341	400a	Pay at 3,331 ft. October 1936 DD.
Antonino	Twin Drilling Co.	1	Copeland	NE SW	26-14-19	June 1936	PBC	3695	3710	410n	Pay at 3,703 ft.
Haller	Kansas Development Corp.	1	Haller	SE NW	10-11-18	July 1936	Topeka	2915	3050	531a	Gravity 44. Pay 3,036 ft. 2 M gal. acid.
Kraus	Vickers Petroleum Corp.	1	Kraus	SW NW	22-14-19	July 1936	Arbuckle	3735	3740	259n	Gravity 35. Pay at 3,737 ft.
Penney-Wahn	Kansas Oil & Gas Corp.	1	Penney-Wahn	SEc	13-15-20	Sept. 1936	PBC	3653	3658	456n	Gravity 31.
Madden	Bridgeport Machine Co.	1	Madden	NE NW NW	26-15-18	Oct. 1936	Arbuckle	3589	3595	619a	Acid 2 M gal. Oswald well DD.
Ellsworth County:											
Heiken	Slick, Pryor & Lockhart	1	Heiken	NWc	25-17-10	Oct. 1930	Arbuckle	3222	3243	2000n	Swabbed and flowing.
Stratmann	J. A. Aylward	1	Stratmann	SE NW SE	1-17-10	Apr. 1931	Arbuckle	3255	3271	2200p	Pumped 10,991 bbls. 5-day test.
Stoltenberg	Palmer and Gypsy Oil Co.	1	Stoltenberg	C SW	22-16-10	June 1931	Arbuckle	3333	3347	2400sw	
Breford	Slick, Pryor & Lockhart	1	Breford	SW NW	7-17-10	Sept. 1932	Arbuckle	3369	3407	960n	Pay at 3,385 ft.
Satran Gas	Viking Oil Co.	1	Satran	C SW NW	5-14- 9	Oct. 1932	Big Blue	1285	1290	⅝ Mcf	Herington lime? TD 1,385 ft.
Wilkens	Smith & Ash	1	Wilkens	SEc	13-17-10	May 1934	Arbuckle	3260	3280	282a	Gravity 46. Acidized twice.
Lorraine	Twin Drilling Co.	1	Rolfs	SW NW SW	13-17- 9	Nov. 1934	Arbuckle	3200	3205	1640a	Pumped 526n.
Lorraine Gas	Bradley & Scanlon	1	Neinke	NW NE NW NW	13-17- 9	Mar. 1935	Wabaunsee	2200	2208	3.1 Mcf	Used for drilling in field.
Ellsworth Gas	Lario Oil & Gas Co.	1	State	SWc	29-15- 8	Apr. 1935	Wabaunsee	2195	2200	¼ Mcf	TD 3,937 ft., pb to 2,525 ft.
South Lorraine	Carter Oil Co.	1	Teubner	SE NW	26-17- 9	Apr. 1935	Arbuckle	3177	3179	1141a	
Becker	Rosenthal-Beardmore	1	Becker	NW SW	25-17-10	Sept. 1935	Arbuckle	3243	3271	183a	Pay at 3,269 ft. 46 water.
Breford, South	Hinkle & Jones	1	Byers	SW NW	18-17-10	June 1936	Arbuckle	3290	3310	955a	Pay at 3,305 ft.
Lorraine	Bradley & Scanlon	2	Neinke	NW NW	13-17- 9	Sept. 1936	KC Lime	2953	3060 pb	151a	Arbuckle well pb, acid 3,700 gal.
Finney County:											
Holcomb Gas	Denham & Myers	1	Brown	C SW	16-25-34	Dec. 1932	Big Blue	2635	2744	5.5 Mcf	
Hamlin Gas	Lone Star Drilling Co.	1	Hamlin	SW NE	31-24-34	June 1936	Big Blue	2418	2700	¾ Mcf	
Jones Gas	Helmerich & Payne	1	Jones	SEc	34-26-34	Aug. 1936	Big Blue	2507	2764	3¼ Mcf	Pay 2,749-55 ft., acidized.
Grant County:											
Ulysses Gas	McKenna et al	1	Sullivan	NEc	12-29-38	Dec. 1930	Big Blue	2455	2715	4 Mcf	
Hickok Gas	Piney Oil & Gas Co.	1	Kennedy	C SW	10-29-36	Dec. 1935	Big Blue	2482	2740	10 Mcf	Rock pressure 424 lbs.
Harvey County:											
Friesen Gas	J. H. Liggett	1	Friesen	C NE	10-23- 3	Nov. 1926	ML-Chat	3256	3270 pb	⅜ Mcf	TD 3,867 ft., pb and completed July 1927.
Halstead Gas	Shell Petroleum Corp.	1	Haury	NE SW SE	11-23- 2	Aug. 1928	ML-Chat	2940	2972	8.4 Mcf	Pay at 2,961 ft.
Halstead	Shell Petroleum Corp.	1	Haury	NE SW SE	11-23- 2	Apr. 1929	ML-Chat	2972	3005 pb	60n	TD 3,554 ft. in Arbuckle.
Hollow	Frank Hollow et al	1	Fee	SW SW NW	20-22- 3	Dec. 1931	Hunton	3507	3509	550p	August 1932 DD 3,514 ft. for 1456n.
Hollow	Frost Drilling Co.	1	Martens	NE SE SE	19-22- 3	Oct. 1932	ML-Chat	3195	3208	5000f	
Hollow	Magnolia Petroleum Co.	1	Schmidt	NE NW NE	30-22- 3	Apr. 1933	KC Lime	2499	2520	480a	Produced 262n.
Hollow	Producers & Refiners Corp.	2	Martens	SE SW SE	19-22- 3	May 1933	Wilcox	3510	3514	875n	
Hesston	Frank Hollow et al	1	Summerfelt	NW NE NW	8-22- 1	Oct. 1934	Hunton	3310	3317	247a	TD 3,356 ft. Much water with oil.
Sperling	Imo Oil & Gas Co.	1	Sperling	SE NE NE	23-22- 2	Dec. 1934	Hunton	3279	3345	1624a	Completed January 1935. 1% water.
Sperling Gas	Phillips Petroleum Co.	1	Ewy	NW SW NW	24-22- 2	June 1935	ML-Chat	2955	3142 pb	13 Mcf	Arbuckle 3,574-85 ft., HFW.
Sperling	Sunray Oil Co.	1	Sperling	NE SE NE	23-22- 2	July 1935	Wilcox	3447	3463	82s	Shot 20 quarts and 70 quarts.
Schowalter	L. W. Prunty	1	Davis	NEc	6-22- 1	July 1935	Hunton	3298	3320 pb	147a	Wilcox 3,457-3,533 ft., HFW.
Warkentine	Western Kansas Oil & Refining Co.	1	Warkentine	C SW SW	1-23- 2	Apr. 1936	ML-Chat	2970	3001	569f	Pay 2,995-3,000 ft.
Haskell County:											
Satanta Gas	Derby & Trees Oil Co.	1	Warner	C SE	29-30-34	Sept. 1931	Big Blue	2520	2608	13.6 Mcf	
Elliott Gas	Helmerich & Payne	1	Elliott	C SW	30-29-33	Feb. 1936	Big Blue	2600	2747	2.4 Mcf	
Nilson Gas	Kuhn Brothers	1	Nilson	SW SE	21-28-32	Aug. 1936	Big Blue	2702	2745	2 Mcf	
Larson Gas	Helmerich & Payne	1	Larson	C SE	28-28-33	Sept. 1936	Big Blue	2718	2771 pb.	3 Mcf	TD 2,978 ft. Shot 70 quarts.
Kingman County:											
Kingman	Fleeger et al	1	Richardson	NE SE	16-27- 7	Jan. 1926	ML-Chat	3853	3894	804f	Abandoned September 1927.
Cunningham Gas	Skelly Oil Co.	1	Miles	NEc	30-27-10	Jan. 1931	KC Lime	3338	3441	3.1 Mcf	12 Mcf cased off in five horizons.
Cunningham	Skelly Oil Co.	1	Miles	NEc	30-27-10	Jan. 1931	KC Lime	3338	3464 pb	233f	Pay at 3,390 ft. TD 3,505 ft.
Cunningham Gas	Skelly Oil Co.	1	Leisman	C SE SW	20-27-10	Feb. 1932	Arbuckle	4093	4175 pb	27 Mcf	TD 4,195 ft., small show oil.
McPherson County:											
McPherson Gas	Merriam, Reeves & Shidell	1	Anderson	C SW	29-18- 2	Sept. 1926	ML-Chat	2927	2943	7.5 Mcf	
McPherson	Mid-Kansas Oil & Gas Co.	1	Larson	C NE SW	31-18- 2	July 1928	ML-Chat	2950	2978	360f	Gravity 37. Pay at 2,967 ft.
Ritz Gas	McPherson Oil & Gas Co.	1	Wedel	C SW	12-20- 2	Dec. 1928	ML-Chat	2972	2983	6.5 Mcf	Completed in January 1929.
Voshell	Washabaugh et al	1	Voshell	NEc	9-21- 3	Apr. 1929	Viola	3301	3304	40n	
Ritz	Shell Petroleum Corp.	1	Ritz	NW SE SW	1-20- 2	July 1929	ML-Chat	2936	2966	1468f	Flowed 388 bbls. in 2 hours, then pinched.
Galva Gas	McPherson Oil & Gas Co.	1	Decker	C SE	11-19- 3	July 1929	ML-Chat	2883	2914	18 Mcf	
Chindberg Gas	McPherson Oil & Gas Co.	1	Chindberg	C NW NW	18-19- 2	Aug. 1929	ML-Chat	2996	3009	40 Mcf	
Chindberg	McPherson Oil & Gas Co.	1	Chindberg	C NW NW	18-19- 2	Aug. 1929	ML-Chat	2996	3045	60f	Pay at 3,007 ft. PB to gas.
Voshell	Slick, Pryor & Lockhart	1	Grattan	NE NW NW	34-20- 3	Oct. 1929	ML-Chat	3055	3108	256f	Gravity 36. Pay 3,093-98 ft.
Voshell	Derby Oil Co.	1	Stucky	NE SE	9-21- 3	Oct. 1929	Wilcox	3322	3325	1334f	
Voshell Gas	Gypsy Oil Co.	1	Kinney	NE NW SW	34-20- 3	Dec. 1929	ML-Chat	2976	3102	2 Mcf	July 1930 DD Arbuckle 3,502 ft., D&A.
Voshell	Indian Territory Illuminating Oil Co.	2	Voshell	SE NE NW	9-21- 3	Mar. 1930	Arbuckle	3384	3482	480n	

Galva Gas	McPherson Oil & Gas Co.	1	Becker	C SE	11-19-2	July 1929	ML-Chat	2892	2914	18 Mcf		
Chindberg Gas	McPherson Oil & Gas Co.	1	Chindberg	C NW NW	18-19-2	Aug. 1929	ML-Chat	2996	3009	40 Mcf		
Chindberg	McPherson Oil & Gas Co.	1	Chindberg	C NW NW	18-19-2	Aug. 1929	ML-Chat	2996	3045	60f	Pay at 3,007 ft. PB to gas.	
Voshell	Slick, Pryor & Lockhart	1	Grattan	NE NW NW	54-20-3	Oct. 1929	ML-Chat	3055	3108	2567	Gravity 36. Pay 3,093-98 ft.	
Voshell	Derby Oil Co.	1	Stucky	NE SE	9-21-3	Oct. 1929	Wilcox	3322	3325	1334f		
Voshell Gas	Gypsy Oil Co.	1	Kinney	NE NW SW	34-20-3	Dec. 1929	ML-Chat	3076	3102	2 Mcf	July 1930 DD Arbuckle 3,502 ft., D&A.	
Voshell	Indian Territory Illuminating Oil Co.	2	Voshell	SE NE NW	9-21-3	Mar. 1930	Arbuckle	3394	3483	8898w	Gravity 41.	
Galva	Mid-Kansas Oil & Gas Co.	1	Pitts	C SW SE	2-19-2	Apr. 1930	ML-Chat	2924	2972	400n	Pay at 2,964 ft.	
Canton Gas	McBride, Inc.	1	Whitwright	NE SW	30-19-1	June 1930	ML-Chat	2947	2958	3 Mcf		
Canton	McBride, Inc.	1	Whitwright	NE SW	30-19-1	June 1930	ML-Chat	2947	3011	171f	With 124 bbls. water. Gas increased.	
Ritz	Mid-Kansas Oil & Gas Co.	1	Garrett	SW NE	30-19-1	Oct. 1930	Viola	3412	3414	3567sw	Gravity 37.8.	
Johnson Gas	Shell Petroleum Corp.	1	Johnson	SE SW SW	35-19-3	Feb. 1932	ML-Chat	2984	3019	13.6 Mcf		
Johnson	Shell Petroleum Corp.	1	Johnson	SE SW SW	35-19-3	Feb. 1932	ML-Chat	2984	3046	600f	Pay at 3,020 ft.	
Nikkel	J. E. Mabee, Inc.	1	Nikkel	NE SW	33-21-3	Oct. 1932	Hunton	3466	3467	830f		
Ritz	Palmer and Phillips Petroleum Co.	2A	Winn	SE NW	7-20-1	Nov. 1932	Wilcox	3440	3444	996n	Old Viola producer DD.	
Ritz Shallow Gas	Helmerich & Payne	1	Russell	NW NE	23-19-2	June 1933	Big Blue	610	664	¼ Mcf	Acidized 120 gal. Used on lease.	
Voghts	Regina Oil Co.	1	Voghts	C SE SE	8-20-1	Nov. 1933	Viola	3390	3398	541a		
Ritz	General Petroleum Co.	1	Middleswartz	NEc	9-19-2	Jan. 1934	KC Lime	2360	2399	275a	Acidized 1 M gal.	
McPherson	R. E. Youker et al	1	Rolander	SE SW SW	30-18-2	May 1934	KC Lime	2340	2395 pb	12a	Gravity 35. 2 M gal. acid.	
McPherson	Tom Palmer	1	Nordling	SE SW	19-18-2	June 1934	Viola	3190	3200	279a	1 M gal. acid. TD 3,305 ft. Arbuckle.	
Graber	Continental Oil Co.	1	Graber	NE NW	32-21-1	June 1934	Hunton	3274	3298	1294a	Pumped 870 natural.	
Chindberg	Tom Johnson	1	Good	SE NW	13-19-3	July 1935	KC Lime	?	2363 pb	227a	Pumped 97n. TD 3,492 ft. Arbuckle.	
Wenger	Shell Petroleum Corp.	1	Wenger	NEc	2-20-1	May 1935	Viola	3356	3364	109a	Drilled deeper.	
Wenger	Shell Petroleum Corp.	1	Wenger	NEc	2-20-1	Aug. 1935	Arbuckle	3467	3470	80a	Potential with 210 water. D&A.	
Canton North	Empire Oil & Refining Co.	1	Cunningham	SEc	26-18-1	July 1936	ML-Chat	2803	2832	830a	Acidized 3 M gal.	
Morton County:												
Hugoton Extension Gas	Argus Production Co.	1	Armstrong	C NW	16-34-39	Apr. 1930	Big Blue	2652	2933	8.6 Mcf		
Ness County:												
Aldrich	Continental Oil Co.	1	Aldrich	NE SE	7-18-25	Oct. 1929	PBC	4428	4430	128p	Gravity 33.	
Thompson	Continental Oil Co.	1	Thompson	C E½ SW	13-18-26	June 1936	Arbuckle	4446	4492 pb	684a	TD 4,527 ft. where first water found.	
Pawnee County:												
Pawnee Rock	Simpson-Noble Drilling Co.	1	Gates	SWc	13-20-16	Sep. 1936	Arbuckle	3815	3841	257a	Gravity 36. 2 Mcf gas. Acid 2,500 gal.	
Pratt County:												
Gilchrist Gas	Skelly Oil Co. et al	1	Gilchrist	C SE	7-28-11	Jan. 1936	Viola	4227	4244 pb	14.9 Mcf	RP 1,300 lbs. TD 4,435 Arbuckle. 2 M acid.	
Cunningham	Skelly Oil Co.	3	East Maxedon	C S½ N½ S½ NE	25-17-11	Aug. 1936	Arbuckle	4170	4200	90n	With 1¾ Mcf gas.	
Reno County:												
Abbyville	Hartman & Skaer	1	Smith	C SW	24-24-8	Jan. 1927	KC Lime	3540	3544	325n	Gravity 37, 3% water. 4/27 DD 3,588 ft.	
Abbyville Gas	Skelly Oil Co.	1	Trembley	NE SW	30-24-7	Apr. 1930	Wabaunsee	2075	2087 pb	1.8 Mcf	TD 4,247 Arbuckle. Severy Shale?	
Haven—Abandoned	J. H. Tatlock and Shell Petroleum Corp.	1	Tonn	C NW NW	17-25-4	June 1930	ML-Chat	3566	3611	197p	Pay 3,605-09. Gravity 35. 40 water.	
Haury Gas	Study, Turner et al	1	Haury	NE SW	1-23-4	Oct. 1930	ML-Chat	3301	3333	23 Mcf		
Haury	Frost Drilling Co., et al	1C	Haury	SE NW	1-23-4	Jan. 1931	ML-Chat	3254	3364	337f	Oil 3,342-64 ft. 7 Mcf gas 3,280-3,335 ft.	
Burrton Gas	Shell Petroleum Corp. and Continental Oil Co.	1	Blake	SW SE SE	23-23-4	Apr. 1931	ML-Chat	3266	3323	13.6 Mcf		
Burrton	Shell Petroleum Corp. and Continental Oil Co.	1	Blake	SW SE SE	23-23-4	Jan. 1932	ML-Chat	3266	3378	283f	16% water. Gas inc. to 15.3 Mcf.	
Burrton	Sinclair Prairie Oil & Gas Co.	1	Base	C SW SE	26-23-4	Mar. 1934	Hunton	3585	3591	1080f	Gravity 42. Old Chat well DD.	
Hilger	Stanolind Oil & Gas Co.-Amerada Petroleum	1	Hilger	SE SE NW	16-26-4	Apr. 1934	Viola	4062	4067	968a	Gravity 40. 180 bbls. water.	
Burrton	Barnsdall Oil Co.	2	Sabin "C"	SW NW SE	11-23-4	Nov. 1934	Arbuckle	3775	3886	1389a	Pumped 641 natural 22 hours.	
Stone	Hartman & Blair	1	Stone	C NW NW	15-24-4	Sep. 1934	ML-Chat	3308	3344	523a	Pay at 3,337 ft. Grav. 42. 40 water.	
Haven	Haynes Brothers, et al	1	Mueller	SE NW	30-24-4	Sep. 1935	ML-Chat	3350	3399 pb	408a	48 bbls. water. TD 3,701 ft. Hunton. PB.	
Yoder	McPherson Drilling Co.	1	Miller	NE NW	34-24-5	Oct. 1935	ML-Chat	3402	3501	176a	40 bbls. water. Acid 3 M gal.	
Lerado	Shell Petroleum Corp.	1	Reece	CWL SW	11-26-9	Nov. 1935	Viola	4128	4156	898f	Pay at 4,137 ft. 898f with tools in hole.	
Rice County:												
Welch	Prairie and Meridian Oil & Gas Co.	1	Welch	SE SW NW	35-20-6	Mar. 1924	ML-Chat	3370	3415	115sw	Gravity 33.5. Later at 3,490 ft., 230 bbls.	
Raymond	Steinbuchel & Hilligoss	1	Schurr	NE SW	21-20-10	Aug. 1929	PBC	3278	3284	167p	Gravity 52. Later DD to Arbuckle.	
Raymond	Producers & Refiners Corp.	1	Thompson	SE NW	21-20-10	**Jan. 1930**	Arbuckle	3330	3351	**900p**	Gravity 43.	
Raymond Gas	Courtney Davis	1	Kelly	SW NW	22-20-10	July 1930	Wabaunsee	2217	2326 pb	2.4 Mcf	TD 2,593. Gas from several lenses.	
Ploog	Shell Petroleum Corp., et al	1	Ploog	C SW SE	33-18-9	Aug. 1930	Arbuckle	3252	3253	3300n	Swab and flow. Gravity 43.	
Beyer	Muth Brothers	1	Beyer	NE NW	21-19-9	Feb. 1931	Arbuckle	3212	3244	395sw	Pay 3,212-15 and 3,224-39 ft. Gravity 42.	
Sharpe	Hinkle, Cress, et al	1	Sharpe	SE NE	13-20-10	Mar. 1931	Arbuckle	3334	3339	1072p	Gravity 46. Cutting 10%.	
Steckel	Gypsy Oil Co.	1	Steckel	C NE NW	31-19-10	Apr. 1932	Arbuckle	3299	3324	145p	Pay at 3,305 ft. Gravity 42.	
Orth	Slick, Pryor & Lockhart	1	Orth	SE NE	27-18-10	July 1932	Arbuckle	3236	3243	1800n	Pay at 3,240 ft. Gravity 42.	
Chase Townsite	Roy Ramsey, et al	1	High School	NW SW NW	32-19-9	Dec. 1932	Arbuckle	3238	3284 pb	295s	Pay at 3,246 ft. Shot 120 qts. Gravity 45.	
Raymond	Tom Palmer	1	Specht	SE SW SW	16-20-10	Aug. 1933	KC Lime	3130	3140	410p	Pumped 410 bbls. 18 hours.	
Wherry	R. E. Garden & Sons	1	Thode	C NW NW	11-21-7	Sep. 1933	ML-Chat	3358	3380	552sw		
Brandenstein	Atlantic Oil Producing Co.	1	Brandenstein	C SE SE	10-19-10	Nov. 1933	KC Lime	3014	3026	1093a		
Orth Gas	Larlo Oil & Gas Co.	1	Habiger	SE NE NW	27-18-10	Apr. 1934	KC Lime	2850	2936	13.7 Mcf	First marketed Feb. 1935. Pay at 2,906 ft.	
Sharpe Gas	Mid-Kansas Oil & Gas Co.	2	Proffitt	NW SE	18-20-9	May 1934	Wabaunsee	2281	2286	2.7 Mcf	RP. 725 lbs. Severy Shale?	
Geneseo	Continental-Empire-Shell	1	Lansing	NW SE	25-18-8	June 1934	Arbuckle	3132	3175	1294a	Swabbed 941 natural.	
Grove	Ira Keith	1	Grove	SE NW	29-19-9	July 1934	KC Lime	2932	2985	215a	Later DD to Arbuckle.	
Volkland	Ira Keith	1	Volkland	SE NE SE	20-19-9	Sep. 1934	Arbuckle	3206	3225	457a	Pay at 3,215 ft.	
Geneseo Townsite	Yingling, et al	1	Maupin	NW SW SW	1-18-8	Nov. 1934	Viola	3233	3239	104p	Gravity 38. DD 3,354 ft. Arbuckle D&A.	
Wenke	Twin Drilling Co.	1	Wenke	SEc	7-20-10	Feb. 1935	Arbuckle	3306	3372	182s		
Orth	Hinkle & Hays	1	Mehl	NE SW	27-18-10	Apr. 1935	PBC	3152	3192	172n	Pay at 3,182 ft.	
Keesling	Gypsy Oil Co.	1	Keesling	NW SW	16-20-9	Apr. 1935	Arbuckle	3239	3265 pb	238a	Total depth 3,267 ft.	
Stumps	Allison & Fitzwilliams	1	Stumps	NW SW	4-18-10	May 1935	Arbuckle	3229	3267	624a	48 bbls. natural. Acid 2 M gal.	
Beyer Gas	National Refining Co.	5	Sherman	SW SE SW	16-19-9	June 1935	Wabaunsee	1987	2002	3 Mcf	Pay 1,987-1,990 ft. Used on lease.	
Guldner	Vickers Petroleum Corp.	1	Guldner	SE NE NW	16-18-9	July 1935	Arbuckle	3224	3230	944a	Pay at 3,227. 349 bbls. natural.	
Wendell	John Burton et al	1	Wendell	SW NE	32-19-10	Aug. 1935	Arbuckle	3289	3293	703a		
Guldner Gas	Vickers Petroleum Corp.	1B	Guldner	NE SE NW	16-18-9	Sep. 1935	KC Lime	2884	3025 pb	13 Mcf	Total depth 3,285 ft. Arbuckle.	
Rickard	Aylward Drilling Co.	1	Rickard	SW SW NW	22-18-9	Sep. 1935	PBC	3285	3305 pb	201s	Shot 20 qts. TD 3,400 ft. Arbuckle.	
Galt	Continental Oil Co.	1	Ferguson	SW NW NE	8-18-7	Oct. 1935	Arbuckle	3205	3230 pb	387a	TD 3,233. 100 oil-12 water natural.	
Ponce	R. E. Day, et al	1	Ponce-Mason	NW NE NE	28-21-7	Jan. 1936	ML-Chat	3388	3431	135p	Pay at 3,396 ft.	
Edwards	Skiles & Davis	1	Edwards	NW NE	3-18-8	Jan. 1936	Arbuckle	3278	3282	550n	Potential test 20 hrs. 550 bbls. natural.	
Geneseo	Continental Oil Co.	1	Root	NW NE NE	36-18-8	Apr. 1936	Wilcox	3154	3181	579n	July 1936 DD to Arbuckle oil.	
Hauschild	Douglass et al	1	Hauschild	NE NW	15-21-7	Apr. 1936	ML-Chat:Pbc	3363	3393	3997f		
Schartz	Hartman & Blair	1	Schartz	NE SE SE	33-19-10	June 1936	Arbuckle	3310	3318	557n	Pay at 3,311 ft.	
Haferman	Shell Petroleum Corp.	1	Haferman	NW NE SE	6-19-9	June 1936	Arbuckle	3192	3216	1719n		
Empire	Rose Spring Drilling Co.	1	Young	SW SE	8-20-9	June 1936	Arbuckle	3272	3291	435a		
Bowman	Simpson-Noble Drilling Co.	1	Bowman	SW NW	22-19-10	Aug. 1936	Arbuckle	3286	3297 pb	58n	TD 3,305 ft., 450 bbls. water.	
Lyons Gas	Simpson-Noble Drilling Co.	1	Pulliam	CS½ N½ NE	35-19-8	Aug. 1936	Arbuckle	3279	3385 pb	75 Mcf	TD 4,085 ft. Largest gas well in state.	
Saxman	Sage & Douglass	1	Patton	SWc	5-21-7	Sep. 1936	ML-Chat:Pbc	3331	3337	1135n	Gravity 38.	
Doran	Weaver Drilling Co.	1	Doran	NE SE	13-19-10	Sep. 1936	Arbuckle	3291	3311	1366a	Pumped 194 natural. Acid 1 M gal.	
Rooks County:												
Laton	Vickers Petroleum Corp.	1	Luhman	SW SE	11-9-16	July 1927	Oswald	3228	3261	238n	Gravity 41.5. TD 3,320.	
Kruse	Derby Oil Co.	1	Kruse	NW NE NE	3-10-16	Dec. 1927	Oswald	3077	3134	42n	Gravity 41. Pay at 3,128 ft.	
Webster—Abandoned	Aylward, et al	1	Silvers	C NE	21-8-19	Oct. 1930	PBC	3442	3445	300n	Gravity 26. 12/'32 DD 3,475 ft. D&A.	
Dopita	Phillips Petroleum Co.	1	Dopita	C SW SW	31-8-17	Apr. 1934	Oswald	3312	3317	141n	DD to Arbuckle.	
Dopita	Phillips Petroleum Co.	1	Dopita	C SW SW	31-8-17	July 1934	Arbuckle	3409	3419	392n	Sw. 178 bbls. First potential 12/'35.	
Webster	Twin Drilling Co.	1	Doughty	SW SW	15-8-19	Aug. 1934	Oswald	3186	3225	264a	Pay at 3,215 ft.	
Hoskins	Stearns & Streeter	1	Hoskins	SE SW SE	34-9-16	Feb. 1935	Oswald	3084	3106	120a	DD Arbuckle 3,496 ft HFW D&A. 5/'35.	
Zurich	Tree Oil Co. and Findeiss	1	Johnson	SW SE	26-10-19	Sep. 1935	Oswald	3285	3349	474a	Pay at 3,340 ft. 256 natural-16 hrs.	
Faubin	F. A. Gillespie & Sons Co.	1	Lowe	NE NW	12-6-18	Feb. 1936	Oswald	3036	3150 pb	306a	Gravity 40. TD 3,164 ft. Pay 3,128 ft.	
Rush County:												
Bison Gas	Danciger Oil & Refining Co.	1	Scheuerman	C NW	27-17-17	Nov. 1928	PBC	3573	3578	13 Mcf	RP 880 lbs. First marketed Apr. 1929.	
Otis Gas	Morgan & Flynn	1	Eitel	C NW	11-18-16	Mar. 1930	PBC	3507	3509	16.5 Mcf	Rock pressure 725 lbs.	
Greenwalt	Syndicate Oil & Gas Co.	1	Greenwalt	C SW	17-19-16	Aug. 1931	Arbuckle	3820	3835 pb	400p	TD 3,880 ft. HFW, PB to 3,835 ft.	
Otis	Mid-Kansas Oil & Gas Co.	1	Mohr	C NW	10-18-16	July 1934	PBC	3527	3536	153a		
Albert Gas	Schermerhorn Oil Co.	1	Schroeder	NEc	36-18-16	June 1935	PBC	3577	3636	23 Mcf	2/'36 flowing oil, 311 bbls. day.	
Otis, South	Schermerhorn Oil Co.	1	Maneth-Brackley	C NE	22-18-16	Feb. 1936	PBC	3540	3566	700f	Pay 3,547-60 ft. 3 to 4 Mcf gas.	

(CONTINUED ON NEXT PAGE)

Field or pool—	Discoverer—	Well No.	Lease name	Location: In section	Location: S.-T.-R.	Month and year of discovery	Formation or horizon: Name	Formation or horizon: Top	Formation or horizon: Bottom	Initial Capacity	Remarks—
Otis Shallow Gas	Aylward Production Co.	1	Reidel	C NE	13-18-16	Sep. 1936	Wabaunsee	?	2398	14 Mcf	Killed this gas to DD to PBC.
Russell County:											
Fairport	Valerius Oil & Gas Co.	1	Oswald	SW SW SE	8-12-15	Nov. 1923	Oswald	2950	3036	270n	Pay 2,950-62 ft. Gravity 40. 11-14-23.
South Fairport	Midwest Exploration Co.	1	Austin	NE SW	30-12-15	Mar. 1926	Oswald	3031	3060 pb	200n	TD 3,377 ft. Gravity 38.
Gorham	Midwest Exploration Co.	36	Dortland	SE NW	5-14-15	Oct. 1926	Oswald	3027	3057 pb	120n	TD 3,112 ft. Gravity 37.
North Gorham	Stearns & Streeter	1	Gorham	SW NE	7-13-15	June 1927	Oswald	3075	3205	96n	Gravity 38.
Gorham	Stearns & Streeter	1	Mermis	SW NW SW	33-13-15	Jan. 1928	PBC	3299	3306	1000n	Gravity 36. TD 3,317 ft.
North Fairport	Liggett, et al	1	Chrisler	SW NW SW	9-11-15	June 1928	Oswald	3040	3105	40n	Pay 3,073-75 ft.
Sellens	Slick and Prairie Oil & Gas Co.	1	Sellens	SW NE	36-16-13	June 1929	PBC	3342	3352	302n	Produced 50% water.
Sellens	Slick and Prairie Oil & Gas Co.	1	Sellens	SW NE	36-16-13	Oct. 1929	Arbuckle	3352	3365	400n	Gravity 38.
Ochs	Empire Oil & Refining Co.	1	Ochs	SE NE NE	23-15-15	Oct. 1929	Arbuckle	3364	3378	232n	Gravity 36.
Dillner	Empire Oil & Refining Co.	1	Dillner	NWc	36-13-15	May 1930	Arbuckle	3300	3308 pb	190n	TD 3,309 ft. Gravity 30.
Gideon	E. W. Marland, Inc.	1	Gideon	NE NW	8-15-14	June 1930	PBC	3266	3272 pb	180n	TD 3,325 ft. in Arbuckle. HFW.
Rude	Signal Oil Co.	1	Rude	NE SE SE	28-15-13	Dec. 1930	Arbuckle	3344	3352	280n	Pay at 3,347 ft.
Hall	Russell Oil Corp.	1	Miller	SW SE SE	30-14-13	Oct. 1931	Oswald	2985	3085 pb	100n	TD 3,111 ft. Gravity 40.
Russell	Tom Palmer	1	Steinle	NW SW	22-13-14	Feb. 1934	Arbuckle	3283	3286	1150a	Gravity 33.
Russell	Aylward Drilling Co.	1	Holland	NEc	28-13-14	Aug. 1934	Oswald	3195	3204	815a	Gravity 38.
Niedenthal	Lario Oil & Gas Co.	1	Niedenthal	NE NE	23-14-15	Sep. 1934	Arbuckle	3246	3250	706a	Gravity 40.
Fink	Hartman & Blair	1	Fink	SW NW SE	16-14-14	Oct. 1934	Oswald	3055	3170 pb	298a	TD 3,479 ft. Arbuckle. Gravity 36.
Hall	Stearns & Streeter	2	Miller	SEc	30-14-13	Jan. 1935	Arbuckle	3151	3154	594a	
Gurney	Hartman & Blair	1	Gurney	SE NW	23-14-14	Jan. 1935	Oswald	2932	3006	359a	Pay at 3,001-06 ft.
Sullivan	Hartman & Blair	1	Sullivan	NE SE	2-14-15	Feb. 1935	Oswald	2985	3070	220n	Pay 3,060-3,070 ft.
Donovan	Wolf Creek Oil Co.	1	Donovan	SW SE	10-15-15	Feb. 1935	Oswald	3050	3199	233a	Pay 3,193-99 ft. 153 oil-30 water nat.
Freed	E. K. Carey, et al	1	Freed	NW SW	34-13-14	Mar. 1935	Arbuckle	3306	3311	203a	Acid 1 M gal.
Sullivan	Hartman & Blair	1	Roeback	SE NW	2-14-15	Apr. 1935	Topeka	2780	2799	4076f	Gravity 39. 4,076 bbls. nat. flow.
Milberger	Kirk & Jones	1	Milberger	NE NW NW	7-14-14	May 1935	Arbuckle	3305	3315	187a	Pay 3,309-15 ft.
Eichman	Hershey, Ashby and Phillips Petroleum Co.	1	Eichman	NW NW SE	34-15-13	May 1935	Arbuckle	3316	3326	436n	
Big Creek	Wakefield & Armer	1	Rexroat	NE NW NW	31-14-14	July 1935	Arbuckle	3168	3184	213a	Pay 3,180-84 ft.
Cramm	J. C. Shaffer, Inc.	1	Cramm	NE SE	11-14-15	Aug. 1935	Oswald	3025	3130 pb	207a	Pay at 3,074 ft. T.D. 3,305 Arbuckle. 34n.
Atherton	Morrow et al	1	Atherton	NW NE	30-13-14	**Aug. 1935**	Arbuckle	3281	3289	560a	First oil 3,284 ft.
Dubuque	Bailey & Brouk	1	Kleusner	NW SE	34-15-12	Sept. 1935	Arbuckle	3275	3278	552a	First potential 456a.
East Gorham	Bridgeport Machine Co.	1	Polcyn	NW NW NE	10-14-15	Sept. 1935	Oswald	3030	3105	356a	131 bbls. naturally.
Sullivan	Texas Co.	2	Johnson	NE NW NE	2-14-15	Sept. 1935	Arbuckle	3321	3336	100a	Pay 3,330-32 ft. Swabbed 48 bbls. naturally.
Karst	Nassau Petroleum Co.	1	Karst	NW SW NE	27-15-14	Oct. 1935	Arbuckle	3315	3319	287a	
Bunker Hill	Roth & Faurot	1	Shaffer	C NW NE	31-13-12	Oct. 1935	Oswald	2965	3000 pb	274a	Pay 2,965-81 ft., TD 3,002 ft.
East Gorham	Wolf Creek Oil Co.	1	Mills	SE NE NW	10-14-15	Nov. 1935	PBC	3288	3292 pb	60n	TD 3,314 ft., granite.
Boxberger	Central Petroleum Co.	1	Boxberger	NWc	36-15-15	Dec. 1935	Oswald	3137	3155	884a	Pay 3,147-51 ft.
Berrick	Coralena Oil Co.	1	Berrick	NE NW NE	6-15-13	Dec. 1935	PBC	2894	2945 pb	128a	Shot 40 quarts. TD 3,252 ft.
East Gorham	Central Petroleum Co.	1	Witt	SW SE	3-14-15	Dec. 1935	Arbuckle	3289	3296	632a	
Atherton	Phillips Petroleum Co.	1	Downing	SE SE SW	19-13-14	Dec. 1935	Oswald	3008	3055	99n	50 bbls. water. Set casing 3,044 ft.
Sullivan	Texas Co.	3	Johnson	SE NE NE	2-14-15	Feb. 1936	PBC	3310	3314	394n	
Williamson	R. C. Tarrant	1	Williamson	SE NW	9-14-14	Feb. 1936	Tarkio	2515	2550	243a	Pay at 2,522 ft.
Benso	Central Petroleum Co.	1C	Benso	SE SW	9-14-15	Feb. 1936	Oswald	3030	3096	292a	
Harbaugh	Hartman & Blair	1	Harbaugh	NE NE SW	25-14-15	Mar. 1936	Oswald	2908	2950	788a	Acid 5 M gal.
Atherton, South	Hartman & Blair	1	Boxberger	NW SW	32-13-14	Mar. 1936	Oswald	3039	3220	546a	Acid 5 M gal.
Trapp	Coralena Oil Co.	1	Trapp	SEc	30-15-13	Mar. 1936	Arbuckle	3252	3253	1231a	
East Gorham	A. H. Witt	1	Witt	NW SE	3-14-15	Mar. 1936	Tarkio	2525	2550	683f	
Big Creek	Gulf Oil Corp.	1	Hall	SW NW SE	36-14-15	Mar. 1936	PBC	3218	3309 pb	382a	TD 3,325 ft.
Harbaugh	National Refining Co.	1	Reinhardt	NW SE	25-14-15	Apr. 1936	Arbuckle	3179	3185	692a	Pumped 462 bbls. naturally.
Anschutz	Murphy and Phillips Petroleum Co.	1	Anschutz	SWc	10-15-13	Apr. 1936	Arbuckle	3311	3327	515a	Pumped 230 bbls. in 20 hours naturally.
Russell, West	Hartman & Blair	1	Boxberger	NE NE NW	33-13-14	Apr. 1936	Arbuckle	3286	3292	596a	
Foster	Central Petroleum Co.	1	Foster "B"	SW SW NE	3-14-15	May 1936	PBC	3311	3315	498n	
Letch	Darby and Continental Oil Co.	1	Letch	SE NE NW	34-14-13	June 1936	Oswald	2831	2880 pb	419a	TD 3,265 ft. in granite.
Trapp, North	Coralena Oil Co.	1	Sellens	SW SE SW	20-15-13	June 1936	Oswald	3046	3064	578a	Pay at 3,062 ft.
Sullivan	Empire Oil & Refining Co.	6	Johnson	NW SE NE	2-14-15	June 1936	Tarkio	2525	2526	1247a	Pumped 305 bbls. in 12 hours naturally.
Gurney	Empire Oil & Refining Co.	1	Ebel	SWc	24-14-14	July 1936	PBC	3180	3285	178n	Pay 3,258-65 ft.
Steinert	Lario Oil & Gas Co.	1	Steinert	NW SW	21-15-15	July 1936	Oswald	3060	3097	729a	20% water.
Sullivan Ehrlich	Gulf Oil Corp.	5	Ehrlich	SW SE NW	1-14-15	July 1936	Topeka	2763	2926	1653a	Pay 2,923-25 ft.
Harbaugh	Hartman & Blair	2	Harbaugh	SE NE SW	25-14-15	July 1936	PBC	3143	3150	718a	
Trapp, North	W. I. Southern, Inc.	1	C. Sellens	NW NE NW	29-15-13	Aug. 1936	Arbuckle	3315	3320	594a	
Atherton, South	Hartman & Blair	1	Boxberger	NW SW	32-13-14	Aug. 1936	Arbuckle	3307	3311	644a	
Gurney, South	Braden & McClure	1	Herbel	NE NW	35-14-14	Sept. 1936	PBC	2918	3168	220n	
Coralena	Coralena Oil Co.	1	L. A. Sellens	NWc	17-15-13	Oct. 1936	Topeka	2620	2881	1276a	Pay at 2,790 ft. Acid 3 M gal.
Saline County:											
Olson	Dixie Oil Co.	1	Olson	NW NE	10-16-3	Dec. 1929	Viola	3302	3323 pb	10s	TD 3,602 ft., Arbuckle. PB shot 20 quarts.
Scott County:											
Shallow Water	Atlantic Oil Producing Co.	1	Vaniman	C SE NE	15-20-33	Dec. 1934	ML-Chat	4670	4686	572a	Gravity 25. In '35 DD 4,722 ft., no inc.
Sedgwick County:											
Valley Center	Bu-Vi-Bar, Gypsy, Continental	1	Wright	SE NE SE	12-26-1	Aug. 1928	Viola?	3366	3368	1700f	Two pays averaging 7 and 8 ft.
Valley Center	Gypsy-Continental	1	Byers	NW SW NE	7-26-1e	Mar. 1929	Misener	3368	3375	343sw	Gravity 43.
Cross	Connell Petroleum Co.	1	Cross	NE NE	27-25-1	Mar. 1929	KC Lime	2690	2730 pb	20n	Gravity 35. TD 3,652 ft., Arbuckle.
Curry	Plains Oil Co.	1	Curry	SE SW SW	2-27-1	Oct. 1929	Viola	3389	3391	170n	Gravity 41. TD 3,401 ft.
Valley Center	Wentz Oil Co.	1A	Bright	SW SE NW	1-26-1	June 1930	KC Lime	2572	2692	57n	
Bentley	Hartman et al	1	Jones	C NW SW	19-25-1	Mar. 1934	KC Lime	2790	2912 pb	118a	Gravity 34. Old dry hole acidized.
Schulte	D. R. Lauck	1	Jordan	NW SW SE	6-28-1	Mar. 1934	Viola	3652	3653	209a	Gravity 42.
Cheney	Derby and Pennwest Oil Co.	1	Bartholomew	SW NW	8-27-4	Nov. 1935	Viola	4006	4017 pb	102a	Arbuckle 4,155 ft., FW, PB to 4,017 ft.
Seward County:											
Liberal Gas—Abd.	Defenders & Traders Oil Co.	1	Boles	NE NW	3-35-34	Dec. 1922	Big Blue	2718	2755	5 Mcf	Lost hole, abandoned 2,795 ft.
Liberal Gas	Seward Oil & Gas Co.	1	Seeley	NEc	26-33-33	June 1924	Big Blue	2415	2764	1 Mcf	Locally known as "Liberal gas well."
Stafford County:											
Richardson	Midwest Exploration Co.	36	Richardson	SEc	36-22-12	Sept. 1930	Arbuckle	3537	3599	2000sw	Two productive horizons in Arbuckle
Gates	Atlantic Oil Producing Co.	1A	Gates	NW SE	27-21-13	May 1933	Arbuckle	3698	3714	240sw	
Neola	Vickers Petroleum-Phillips Petroleum	1	Cravens	SW NE	15-25-11	Mar. 1934	ML-Chat	3920	3928	192a	With 192 bbls. oil, 263 bbls. water.
St. John	Lario Oil & Gas Co.	1	Tudor-Morgan	SE NW	23-24-13	Apr. 1935	KC Lime	3513	3620	840a	Pay 3,588-3,620 ft., TD 3,628 ft. Gravity 33.
Riley	Courtney Davis	1	Riley	SEc	19-22-11	June 1935	Arbuckle	3587	3603 pb	379a	185 bbls. oil, 7 water naturally. TD 3,630 ft.
Snider	Farris, Grattan et al	1	Snider	SE NW	3-21-11	Apr. 1936	KC Lime	3070	3111	390a	Acid 1 M gal. Later at 3,138 ft., 737 bbls.
Snider	Empire Oil & Refining Co.	1	Sifers	NE SW	3-21-11	June 1936	Arbuckle	3324	3343	803a	
St. John	Lario Oil & Gas Co.	1	Tudor-Morgan	SE NW	23-24-13	Oct. 1936	Arbuckle	4075	4087	1258n	Gravity 35. Pumped 1258n in 21 hours.
Stevens County:											
Hugoton Gas	Independent Oil & Gas Co.	1	Crawford	C SW	31-33-37	May 1927	Big Blue	2612	2805	10 Mcf	TD 3,502 ft. First marketed May 1929.
Sumner County:											
Douglas	Gypsy Oil Co.	1	Douglas	NE SE NW	23-34-2	July 1927	Wilcox	4490	4498	429f	Gravity 46. 1 Mcf gas.
Latta	Champlin Refining Co.	1B	Murray	SW SE NW	9-30-2	June 1927	KC Lime	3042	3056	100s	Gravity 39. Shot 10 quarts.
Latta Gas	Champlin Refining Co.	2B	Latta	SE SW NW	9-30-2	Oct. 1927	Topeka	2015	2031	4 Mcf	Later DD to oil in KC Lime.
Anson Gas	DeForrest Drilling Co.	1	Meyers	SEc	26-30-2	Apr. 1928	Wabaunsee	1936	1945	2½ Mcf	Howard lime? First marketed 1928.
Caldwell	Gypsy Oil Co.	1	Williams	SW NE SW	16-35-3	Apr. 1929	Wilcox	4765	4784	1710f	Gravity 46. First pay at 4,778 ft.
Wellington	Slick, Pryor & Lockhart	1	Peasel	NWc	33-31-1	Dec. 1929	ML-Chat	3655	3667	310p	Gravity 40. In '30 DD 4,163 ft., Arbuckle and PB.
Trego County:											
Rega	Central Commercial Oil Co.	1	King	NE SW NE	20-13-21	May 1929	PBC	3960	3965 pb	286n	Gravity 34. TD 4,094 ft., Arbuckle. PB.
Wakeeney	Alma Petroleum Co. and McNeeley	1	Rhodes	SWc	14-11-23	Sept. 1934	Oswald	3593	3680 pb	346a	TD 4,222 ft., Arbuckle. HFW. PB 3,680 ft.
Holcomb	Continental Oil Co.	1	Holcomb	C SE NW	26-11-23	Apr. 1936	Oswald	3602	3654	616a	Gravity 40. Acid 4 M gal.

Note: a—acidized; f—flowed; Mcf—million cubic feet of gas; n—natural, not shot, not acidized; p—pumped; s—shot with nitroglycerin; sw—swabbed; pb—plugged back.

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the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Fact to Remember

The plans announced by automobile manufacturers for the coming year, based upon an output which will unquestionably exceed that of this year (surpassed only by 1929), points to a continuing increase in the demand for motor fuel.

Preliminary calculations indicate that domestic demand in 1937 will be 35,000,000 barrels greater than in 1936. This offers an optimistic outlook, not only for refiners but for producers, since, if that forecast materializes, they will have to furnish 200,000 additional barrels of crude daily in the coming year.

But the industry should not overlook the fact that refiners are continuing to increase the quantity of motor fuel taken from a barrel of oil, and this will become more apparent with any improvement in the price of gasoline.

It is not generally realized that cracked gasoline production, practically unknown to the industry 25 years ago, now exceeds the straightrun production, the only gasoline which the industry knew until that time.

Comparing gasoline production in September this year, the latest record available, with production in September, 1935, straightrun gasoline increased 1,020,000 barrels while cracked gasoline production increased 2,783,000 barrels or almost three to one.

Refining efficiency has been advanced not only by the spur of economic necessity for a greater yield of gasoline from a barrel of crude but by the need for antiknock motor fuel, the cracked gasoline having the advantage over the straightrun fuel.

Since refiners have been able to accomplish so much with prices ranging from 4¾ cents to 7 cents a gallon, what could they do if motor fuel prices were advanced 2 cents?

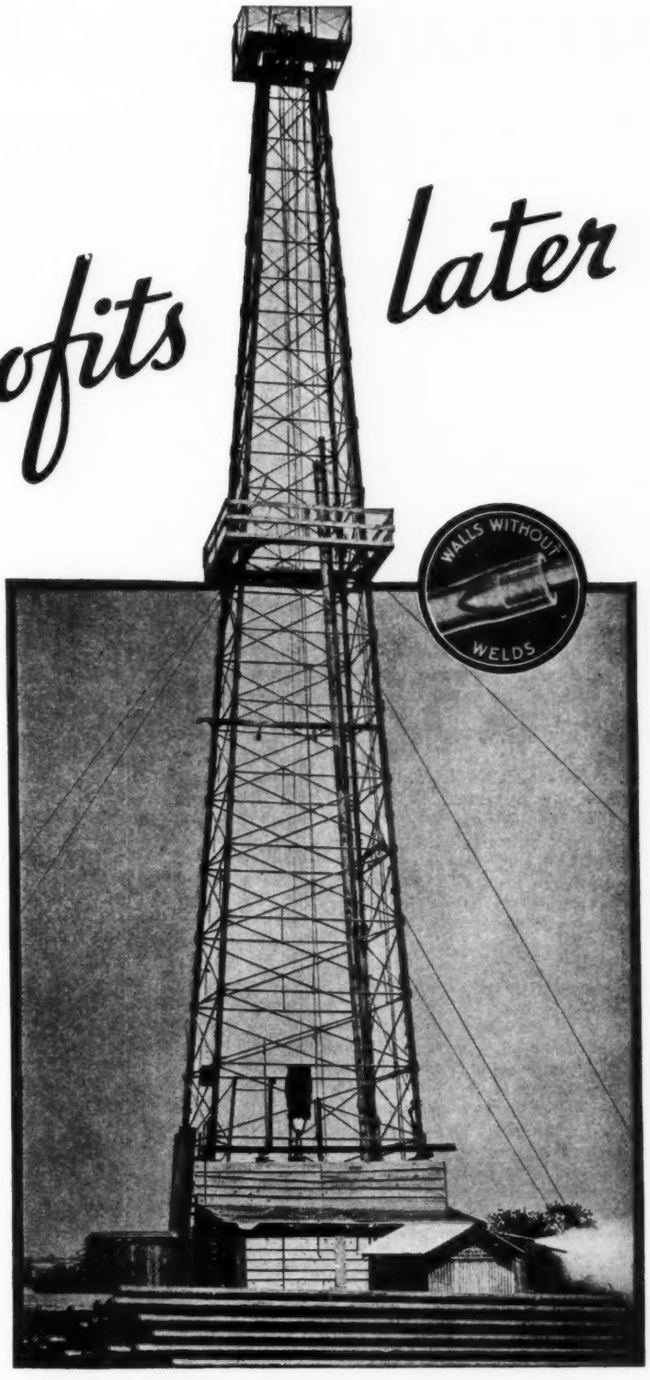
Optimism based upon an apparent increase in domestic demand for gasoline equivalent to 75,000,000 barrels of crude next year, should be tempered by the thought that cracking in 1935, through securing a larger yield and higher efficiency gasoline, enabled the industry to operate on a crude production of less than a billion barrels where over two billion would have been required before cracking was discovered.

Polymerization, Dr. Gustav Egloff told the American Petroleum Institute at Chicago, will mean a saving of another 53,000,000 barrels of crude yearly when units under design or construction are completed.

This conservation of crude through progress in manufacturing must be balanced against any increase in consumption if we are to have a true picture.

If necessary, refiners could supply the increased demand for motor fuel without any additional crude.

PLANT IT NOW *for profits later*



CASING costs show up after the first year or so. If it can withstand unusually severe strains and shocks that are frequently encountered in running and cementing, and still remain sound and trustworthy over a period of years— then it will be profitable casing. Extra expense in later years can more than wipe out the savings made by using cheaper material. As production decreases, production costs increase, hence freedom from replacements and repairs means important economies.

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UNITED STATES STEEL

Oil News from Foreign Lands

I.P.T. Meeting at Chicago

Speaking before a representative group of refinery engineers and research chemists at a dinner sponsored by the American members of the Institution of Petroleum Technology in Chicago this week, George H. Coxon, in charge of manufacturing for the Anglo-Iranian Oil Co., Ltd., called attention to the need for a super-research organization within the petroleum industry. He critized the industry for failure to develop new outlets for its products, pointing out that automobiles, oil burners and airplanes were the products of minds and factories not identified with the petroleum industry.

Commenting upon oil problems abroad, he emphasized the relative slowness with which the industry can move in European countries. The extreme nationalistic feeling in most countries is retarding development of possible oil properties. Natural and artificial barriers to international trade appear in the form of obsolete measuring data and methods of testing in the hands of customs officials, refusal to permit money to leave the country and subsidizing of plants to make substitute fuels from locally produced raw materials. Europe, he said, was presenting a most pressing problem to the oil industry by persisting in building large fleets of airplanes equipped with high-compression engines for war purposes without providing for adequate fuel of high enough octane rating to operate them.

Completing the discussion, C. A. P. Southwell, in charge of oil production for the Anglo-Iranian Oil Co., called attention to the simplicity of drilling in England as the result of the Petroleum Production Act of 1934 in which the government made the unitization of all its fields mandatory. He commented upon the speed with which wells are drilled here compared with practices in other countries.

Dr. V. N. Ipatieff of the Universal Oil Products Co. reviewed oil research developments in Russia.

W. G. Lovell, of the General Motors Research Corp., substituting for T. R. Boyd of the same corporation, spoke of the requirements in motor fuels as viewed by the automobile manufacturers. W. G. Skelly, president of Skelly Oil Co., extended an invitation to the membership to hold a meeting in conjunction with the International Petroleum Exposition in Tulsa in May, 1938.

Dr. Gustav Egloff, of Universal Oil Products Co., opened the meeting following the dinner and introduced Dr. R. E. Wilson, vice chairman of the Pan American Petroleum & Transport Co., who presided as toastmaster. A cablegram conveying best wishes was read from Sir John Cadman, head of the Anglo-Iranian Oil Co., Ltd., and president of the I.P.T.

Progress on Bahrein Island

A deep test, No. 52, equipped to drill to 8,000 feet or deeper, started in the heart of the Bahrein Island proven field by California-Texas Oil Co., Ltd., is drilling below 1,300 feet in about 18-inch and conceivably may be carried to basement rock. No. 51, near No. 52, now drilling, will test showings of oil encountered in flank wells below the regular pay horizon and probably will be carried to around 3,000 feet, or deeper. The company now has 35 producing wells with a rated potential of more than 250,000 bbls. daily, based on open-flow tests on some wells, open tubing on others and small chokes on others. It has been determined, however, that Bahrein Island is capable of producing up to 35,000 bbls. of oil in 24 hours with a drop of only 54 pounds from starting closed-in pressure to the end of the period. The pressure calculations are based on bomb readings at approximately 1,100 feet datum.

BAHREIN

Although the California-Texas construction program on its 10,000-bbl. refinery on the northeastern side of the island is not complete, the company has already let contract for construction to double capacity. Part of the original 10,000-bbl. capacity of the refinery is in use, but all products are being removed to other affiliated refining facilities for finishing. In preparation for capacity throughput, and also to attain some degree of consistent producing practice, the company is making additions to its storage capacity. Producing intervals are now governed by accessibility of boats for moving the oil into consuming channels.

In developing Bahrein Island, California-Texas Oil Co. is observing 3,000-foot spacing, or a pattern of about one well to each 170 acres. The producing horizon is encountered at about 1,850 feet and the average completion depth around 2,150 feet. Due to poor core recovery in the producing lime and soapstone horizons, classified as Eocene, the actual pay thickness has not been accurately determined.

Rising importance of the Arabian Coast as a petroleum producer has been strikingly shown by Bahrein's appearance this year as an oil exporter of approximately 1,750,000 bbls. during the first six months.

Extension of exploration work into undrilled portions of the Arabian Coast of the Persian Gulf is indicated for the near future in addition to work now well advanced in Kowait and on the Arabian mainland due west of Bahrein Island. The last of a series of moves by the Iraq Petroleum Co. is signalized by the formation of a new subsidiary, Petroleum Developments (Trucial Coast) with a capital of 100,000 pounds in 100 "A" shares and 100,000 "B" shares with par of one pound each.

The new company is an offshoot of Petroleum Concessions, the Iraq Petroleum Co.'s exploration and development unit. It will exploit concessions obtained by the Iraq company at various places along the Trucial Coast, which runs from Bahrein and Qatar along the southern shore of the Persian Gulf to the Strait of Ormuz.

Negotiations for the concessions involved have been under way for 18 months. Two-year options over the principal areas had been obtained by representatives of the Anglo-Iranian Oil Co. for the Iraq company. Some of the optioned areas have been converted into full concession agreements by the negotiators of Petroleum Concessions and it is expected that the remainder will shortly be handled in a similar manner. The areas involved, from west to east, are: Abu Dhabi, Diabai, Sharjah Ummul-Qawain and Ras-al-Khaimah.

Sale Postponed

Action on Carib Syndicate, Ltd.'s proposal to sell 20,868 shares of its capital stock in Colombia Petroleum Co. for approximately $2,000,000 has been postponed.

Stockholders failed to represent the required volume of shares for sale action at the special meeting called for November 10.

COLOMBIA

Carib Syndicate's interest of 20,868 shares represents approximately 20 per cent ownership in the Colombia Petroleum Co., which in turn owns the Barco concession in eastern Columbia, joining the western border of Venezuela. Remainder of the Colombia Petroleum Co. is now jointly owned by the Texas Corp. and Socony-Vacuum Oil Co.

Deepening Santa Ana Gas Well

A deep dry gas well in eastern Venezuela wildcat territory has been developed by Venezuela Gulf Oil Co. in No. 1 Santa Ana, but is being carried deeper in search of oil. It tested between 5,000,000 and 10,000,000 feet per day from around 6,100 feet, and is drilling at 6,187 feet without change. Also in eastern Venezuela, Gulf company No. 1 El Tigre is drilling at 5,802 feet without showings of consequence. There has been no change in the status of Standard Oil Co. of Venezuela wildcat operations in the eastern part of the country, although operators are now working over No. 1 Maturin, which blew out and burned a large volume of gas for several weeks. The well cratered and swallowed the derrick, but was brought under control by drilling a relief well a short distance east. Operators are still injecting mud and water to flood the shallow gas sand at around 1,000 feet.

VENEZUELA

Two new locations, one considerably east of the most eastern exploration, are slated in a short time.

Venezuelan Oil Concessions, Ltd., subsidiary of Royal Dutch Shell, is launched on an extensive geological reconnaissance program in eastern Venezuela. It has heretofore confined its activities to the producing districts in the west, centering around Lagunillas. Several crews are working in the east, employing practically every type of instrument.

Mosul Holdings

Mosul Holdings, Ltd., capital £2,000,000 in pound shares, has been registered in England to acquire the former Italian holdings in Mosul oil fields. The Italians disposed of their interest in the northern Iraq concession August 12.

Germans Visit American Refinery

Six members of the German Oil Industry Tour, prominent in the petroleum business in Germany, were recent visitors to the Bayonne refinery of Tide Water Oil Co. The primary purpose of their visit was to familiarize themselves with American methods of oil refining, as well as the distribution and marketing of lubricating oils and automotive products.

All of the German officials are oil dealers and several purchase the bulk of their supplies through the Tide Water German distributor, Hamburg Amerikanische Mineralol G.m.b.h.

Left to right: Otto Lietz, Rudolf Greiser, Ludwig Mueller, with Fritz Stenzel directly behind, Werner Spangenberg and Max Heydkamp

The group included: Ludwig Mueller, who is a Tide Water dealer and Fritz Stenzel of A. Binder & Co., Halle; Otto Lietz of "Litta" Chemische Fabrik, Kiel; Rudolph Greiser; W. Spangenberg and M. Heydkamp, merchants.

Two chapters

Tulsa, Oct 25 . . . Sunray Oil Corporation reports for the 9 months ended Sept 30, profit was $474,014 after depreciation, depletion, lease abandonments, etc., but before federal income and other taxes, compared with a profit of $207,297 in the same 1935 months—
CHICAGO JOURNAL OF COMMERCE, *Oct 26, 1936*

That's a pleasant story, but let's look at an earlier chapter

Waxy gas oil, the by-product of a vacuum asphalt distillation, was the chief factor which led the Sunray Oil Company to install the latest type Dubbscracking unit in its refinery at Allen, Oklahoma The asphalt found a market and brought a good price but the gas oil proved too heavy a load to carry—the price received from it was not profitable—NATIONAL PETROLEUM NEWS, *December 5, 1934*

Sunray installed a Dubbscracking unit in 1934

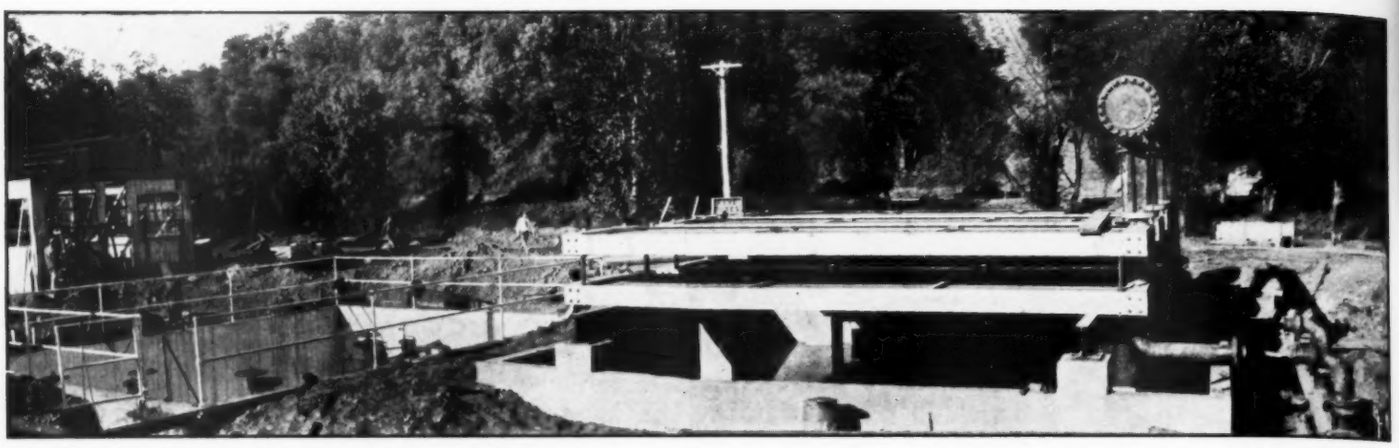
Sunray made profits on its refining operations in 1935

—and more profits in 1936

And so can you—with Dubbscracking

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor



Initial gas cooling equipment and at the extreme left, the pump-house for the dehydrator under construction

Hope Installing Dehydrator to Remove Moisture From Line

By T. P. SANDERS

In constructing a large dehydrating plant for gas in West Virginia the Hope Natural Gas Co. is having to meet many obstacles which threaten to delay construction, since they are virtually pioneers in a new field. All equipment required for the new plant must fulfill unusual specifications and therefore has been found difficult to obtain when needed. However, it is still hoped to have the dehydrator ready for operation before the completion of the 12-inch line on which it is to be used. The pipe line, which will be 95 miles long, will represent distinctly different practice, in natural gas transportation, since it is to be tested for 1,500 pounds pressure when completed. Eventually it will operate at this abnormally high pressure, though it is believed that its intake pressure during the first few months of its use will be in the neighborhood of 300 pounds. As the demand for natural gas increases the line pressure will be increased until it reaches the 1,500-pound maximum, at which the line's capacity will be 65,000,000 feet of gas per day. This gas will all pass through the dehydrating plant where the water will be removed to prevent freeze-ups in the low places along the course of the line.

STATION OF MODERN DESIGN

The John J. Cornwell compressing station where the dehydrator is being installed is one of the most up-to-date compressing and gasoline plants in operation today, and with the addition of the new compressors to supply gas to the 12-inch line and the completion of the dehydrating plant, this station will probably be unrivaled as an example of up-to-date operation.

After being compressed for introduction into the new high-pressure line, the natural gas will pass through coils where initial cooling will take place before the gas enters the dehydrating plant. These coils are made of 1-inch brass pipes lying horizontally. Water will be sprayed over them as the gas passes through. It is believed that this will cool the gas to about 60° F., at which temperature it will enter the dehydrating plant.

The plant will work on a continuous basis and its operation will be as follows: Calcium chloride brine will be chilled by ammonia expansion and the natural gas washed with the saturated brine solution. The brine will then be relieved of the water it takes from the gas by distillation and recycled. Thus the plant in operation will closely resemble the conventional form of ice-manufacturing plant. Its size can be best visualized by the consideration that if it were used as an ice plant its capacity would be 100 tons of ice per day. However, no ice will occur in the process. Freezing temperatures will be employed, but the water taken from the gas will quickly mix with the brine, the freezing point of which will be kept well below the temperatures found in the plant.

Twelve-inch Ventura type cast-steel gate installed at input end of the new gas line which will be tested for 1,500 pounds pressure

The ammonia used for cooling the calcium chloride brine will be compressed to the liquid phase by two two-cylinder vertical 7x7-inch ammonia compressors, each being driven by a 40-horsepower steam engine. The compressed ammonia will be stored in a 30-inch high-pressure tank, 15 feet long, and allowed to expand into a tank of about the same size situated directly above the storage tank. The brine will flow through tubes in the upper tank while the ammonia expands around the tubes. By this means the brine is cooled to 25° F. The ammonia will then be returned to the compressors as a gas and the brine, as a saturated solution, to the washing tower where the water will be extracted from the gas. This operation will be almost identical to the operation of the absorption tower or bubble tower used for removing condensible hydrocarbons such as gasoline vapor, from natural gas. The gas is introduced at the bottom of the tower and will pass through the downstream of calcium chloride brine which will absorb the water from the gas.

PRINCIPLE OF OPERATION

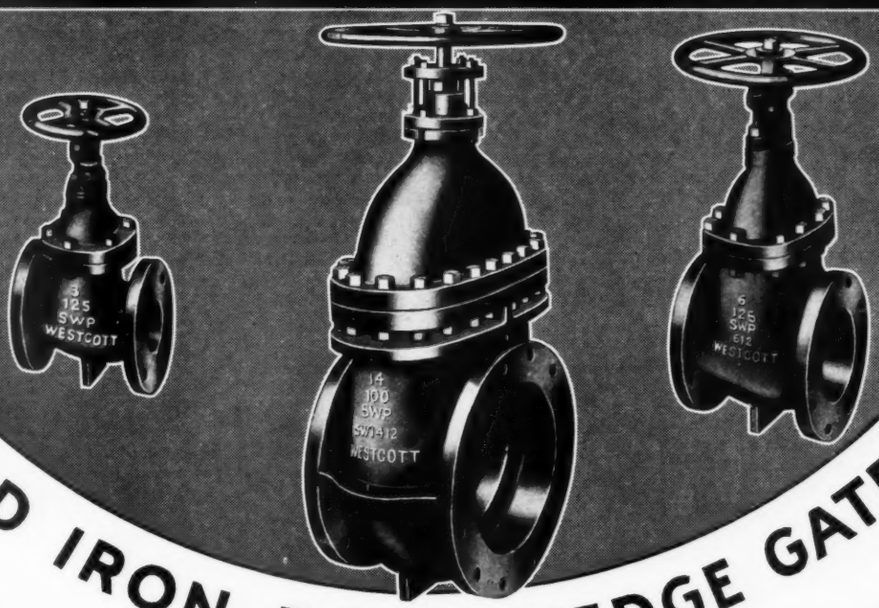
Authorities once believed that the effectiveness of calcium chloride in the absorption of water came to an end when a solid grain of the salt became completely covered by water. More recently it was learned that even an aqueous solution of calcium chloride would absorb moisture from other substances, such as gases, the efficiency varying with the strength of the solution. The low temperature condenses the water vapor so that it may be absorbed. It is upon this principle that the dehydrator will operate.

Water taken up by the brine in the washing tower will dilute the brine solution so that it must be removed in order to deep the solution saturated at the temperature of 25 degrees. This will be done by a boiling process, the excess water being discharged to the atmosphere as a vapor. The brine solution will then be returned through a cooling coil to the chiller and will be recycled. The natural gas will leave the washing tower free from water and at a low temperature. The low temperature

FACTORY TESTED

FIELD PROVEN

WESTCOTT VALVES



STANDARD IRON BODY WEDGE GATE VALVES

Westcott Standard Iron Body Wedge Gate Valves are available with either stationary stem or outside screw and yoke. Complete range of sizes from 2″ to 24″. Constructed for durability under severe service by the introduction of alloys, these valves are the result of many years of oil country engineering experience.

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will have no appreciable effect on the capacity of the pipe line, since it has been found that gas traveling in uninsulated lines will be heated or cooled, as the case may be, to the ground temperature, in about 4 or 5 miles.

The equipment used on the brine circuit in the plant must be of such material that will resist the corrosion due to the brine. Thus, while some of the equipment, such as the absorption tower, will be of conventional design, they must be made of materials other than those used in the equipment

Dehydrating equipment in Hope's new plant. The lower tank will contain compressed ammonia which will expand in the upper tank around tubes containing calcium chlorid brine

ordinarily found on the market. The brine will be pumped by an 8x2¼x12-inch steam pump of the horizontal type. The properties of ammonia make it necessary to use special equipment and fittings on its circuit, and likewise, because of the enormous pressure to be applied to the natural gas, no ordinary fittings or equipment can be used on its circuit. The gas fittings will be of cast steel. The equipment, therefore, is expensive and not readily obtainable. As an example, the 12-inch high-pressure cast-steel gates, built for 1,500 pounds pressure, must be furnished with tool-steel flange bolts. They have been obtained at a cost of more than $1,000 each, and six of them will be used on the line between the company's Cornwell station and Hastings station. Since the 12-inch line is being built for such high pressure, its capacity will be greater than that of the older 20-inch line which it parallels.

Road Oil Report Issued

NEW YORK, Nov. 14.—Gratifying results in efforts toward simplifying and coordinating various specifications and methods of testing liquid asphaltic road materials have been attained by government agencies. In an 11-page report issued recently by the Bureau of Mines with the assistance of the U. S. Bureau of Public Roads of the Department of Agriculture and the Highway Research Board of the National Research Council, previous data on asphaltic road materials were modernized and extended. Results of the 1936 report, compared to 1934, disclose rapid simplification of specifications and abolishment of many tests. The data presented are as of January, 1936, and the bureau cautions readers to inquire of the highway department of a given state as to whether specifications have been revised since assembly of data.

Testifying to the beneficial results, the current presentation of data on the same subjects from the various states shows a distinct trend to uniformity. The trend is particularly gratifying to oil refiners who may be attempting to supply or compete for business in numerous states. Under previous conditions, and continuing to a lesser degree, slight variations in specifications for two or more states often involved great expense.

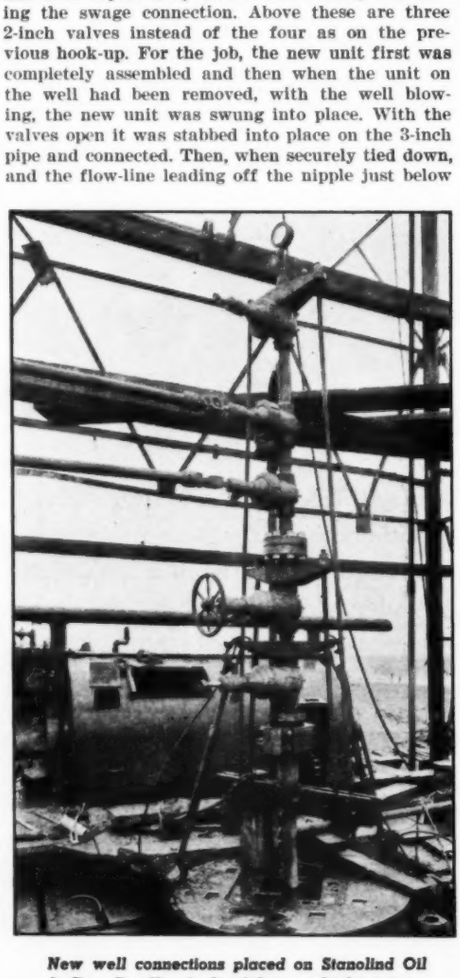
Connections on High-Pressure Well Changed by Stanolind

The job of changing well connections on a high-pressure well without shutting the well in was another hazardous feat recently accomplished by Stanolind Oil & Gas Co. in its No. 1 Candelari, located on the Greens Bayou Prospect, just northeast of Houston. This wildcat, which blew out at a total depth of 8,101 feet, developed gas pressures up to 5,000 pounds, the highest ever recorded in any well. These pressures were brought under control successfully as described in the November 5 issue of The Oil and Gas Journal but leaks which developed in the well fittings due to contraction of the threads when pressures in the well declined during bleeding operations made it necessary that the connections be replaced.

Connections on the well had been made up on a short section of 5-inch drillpipe, which with a 3-inch male tool-joint on the bottom had been stabbed into the 3-inch drillpipe, which was in the hole when the well blew out, and then screwed in place. On top was a 4-inch, 6,000-pound test master gate connected through a 3-inch by 4-inch hydraulic swage. Above the 4-inch valve were four 2-inch, 5,000-pound test valves, connected on 2-inch hydraulic pipe nipples, swaged down from the 4-inch valve.

To replace everything down to the 3-inch drillpipe below the 4-inch master gate there was no way of closing in the well. Even if the 3-inch could have been closed in, operators would not have done so because of the high pressures. Although the removal of the original connections and the replacement of these with the well blowing was a hazardous undertaking, it was considered much safer than an attempt to close the well in. To close the well in only that portion of the hook-up above the 4-inch gate valve could have been removed.

As the well now is hooked up, the 4-inch valve has been replaced by two 3-inch valves, eliminating the swage connection. Above these are three 2-inch valves instead of the four as on the previous hook-up. For the job, the new unit first was completely assembled and then when the unit on the well had been removed, with the well blowing, the new unit was swung into place. With the valves open it was stabbed into place on the 3-inch pipe and connected. Then, when securely tied down, and the flow-line leading off the nipple just below the top valve connected, the top valve was closed turning the flow into the flow-line as before.



New well connections placed on Stanolind Oil & Gas Co. No. 1 Candelari, a high-pressure wildcat near Houston, Tex.

On latest report, as this is written, the well was making 10,886,000 feet of gas with 142 bbls. of 47.7 gravity (corrected) oil daily. The production was being taken to separators through two bleed-lines, each with one-quarter inch choke. Pressure had dropped from 4,800 pounds, which was recorded when the well first was opened into the lines, to 2,900 pounds.

Results of Study on Oil-Field Brine Disposal Published

Results of a study of disposal of oil-field brines in western Kansas, conducted in cooperation with the Kansas State Board of Health, are given in a report just published by the U. S. Bureau of Mines, Department of the Interior.

Successful disposal of oil-field brines in Kansas presents an ever-increasing problem to the operators. Two surveys of the oil-producing fields in the Arkansas River drainage area in western Kansas, made approximately one year apart, showed that impounding brine in storage ponds is not a positive means of disposal, because of the permeable character of the soil and the nearness of the domestic water supply to the surface. Two other methods of brine disposal which the study indicates to be applicable under certain conditions are controlled dilution in certain surface streams during flood stage and return of brine to subsurface formations.

The surveys of oil fields in the area under consideration showed that the total number of producing wells increased from 270 to 526 in approximately one year. The average daily oil production per well increased from 93.5 bbls. to 97 bbls. and the average daily water production increased from 59 to 72 bbls. in the same period.

Surveys of streams in the area showed that only a small part of the high mineral content of the surface water was due to mineralization by brine produced in the various oil fields. Surveys were made of the chloride content of domestic water from wells in the different fields.

Study of the subsurface disposal systems in operation in the area indicated that most of the difficulties were due to clogging of the formation in input wells by solids suspended or dissolved in the brines. These solids are principally iron sulfide resulting from corrosion of equipment by hydrogen sulfide and calcium carbonate precipitated out of solution. Preliminary corrosion tests were made to determine types of disposal systems in which minimum corrosion might be expected.

The results of this study have been published as Bureau of Mines Report of Investigations 3,318, Disposal of Oil-Field Brines in the Arkansas River Drainage Area in Western Kansas, by C. J. Wilhelm, H. M. Thorne and M. F. Pryor. This report, made possible through cooperation of the Kansas State Board of Health, may be obtained without cost upon application to the Information Division, U. S. Bureau of Mines, Department of the Interior, Washington, D. C.

New Edition of Welding Handbook

The fourth edition of "Procedure Handbook of Arc Welding Design and Practice" has just been published. This new edition covers the many important improvements in the electric arc welding process that have occurred in the last few years. These improvements, extending the field of practical application of the process, have led to the rewriting of this well known handbook on welding.

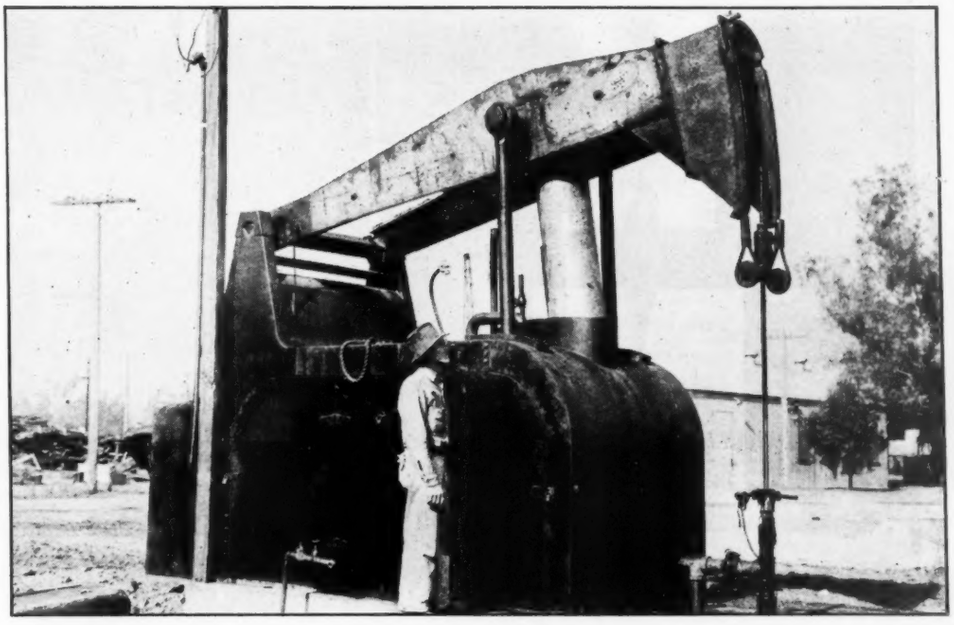
While it still maintains the original form, the book is greatly enlarged. The new edition contains 820 pages and is divided into eight chapters. Many illustrations and drawings are included, and the whole field of arc welding is covered in much detail.

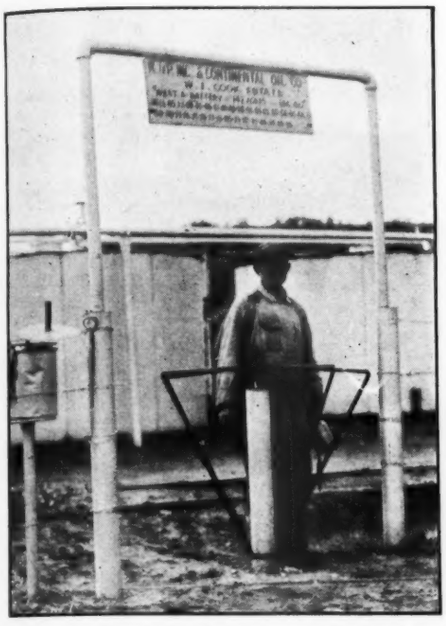
"Procedure Handbook of Arc Welding Design and Practice" may be purchased at the regular established price of $1.50, express prepaid, through the Book Department of The Oil and Gas Journal, and a copy will be forwarded promptly upon receipt of check or money order for that sum. Where payment does not accompany the order the book will be send express c.o.d.

OPERATING IDEAS

Pumping Unit Housed to Silence Operations

In order to silence their pumping operations and prevent tampering with the equipment many operators are installing the type pumping equipment shown in the accompanying photograph at their wells within the city limits of Los Angeles. The pumps are motor driven and whole pumping unit housed in welded sheet-steel. The unit shown here is of the heavy hydraulic type for heavy work, other lighter types being used where the load is not heavy.—(ACME)



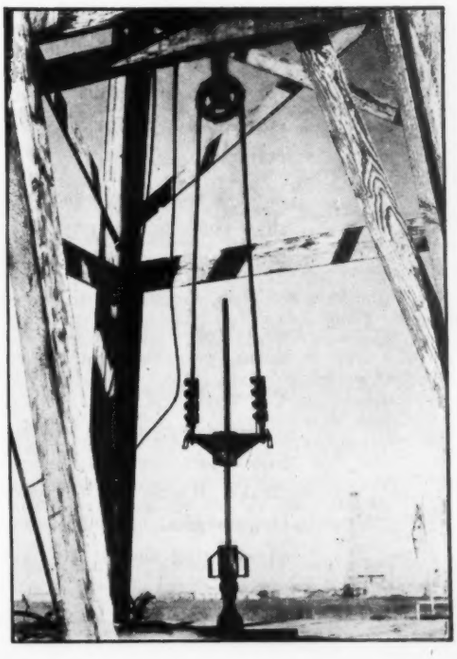


Turnstile Made from Old Pipe

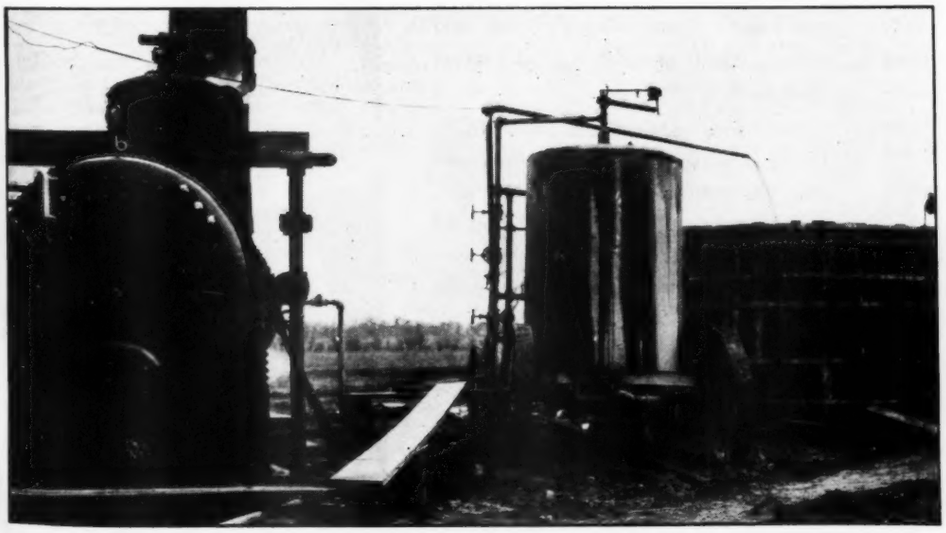
A turnstile made from old pipe has been installed by one company at its tank battery on a lease in the Texas ranch country to keep cattle from the lease and yet allow easy access. The turnstile is constructed from 1-inch welded pipe. A pin in the top of the stile turns in a bushing placed in the upper part of the 4-inch pipe which serves as a post. At the left of the turnstile is a container for waste, equipped with a cover that can be easily removed with an upright handle.

Equalizer on Pumping Well

To equalize the pull on the polish-rod as the walking beam passes through its pumping cycle, the device shown here is used by one operator on his pumping wells. A sheave hinge is attached to the walking beam, a length of steel cable passed through it and fastened to the outside of the polish-rod hanger. As the angle of pull varies, the cable is held taut since it is free to roll.



Portable Water-Softener for Rotary Drilling Boilers



Operators in some oil fields of Kansas are forced to use very hard boiler feed-waters so that to eliminate shutting down and scaling of boiler flues requires treating the feed-water. One drilling contractor in Sumner County has devised a portable water-softener that can be easily moved with the rig when moving to a new location. The softening plant has proved very successful and his experience has been that it eliminated the shutdown time ordinarily experienced under these conditions, as well as lengthening the life of the boilers.

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EXACT duplicates of original brake bands, lined with special quality W-K-M solid, interwoven lining made to our specifications, are exchanged on the derrick floor for your bands with worn lining, which are then returned to our factory where they are completely reworked and carefully relined.

This exchange costs you no more than you are now paying for the ordinary, haphazard field relining job.

This, together with the quality built into W-K-M brake lining, gives you a value you have never received before.

On your next relining job, order a set of W-K-M Brake Bands to fit your Drawworks. Then, instead of shutting down for five hours or so, merely replace your bands with the new ones, in not over one hour's time. There's your first saving, which absorbs a good part of your cost.

You save again because W-K-M Brake Lining is specially fabricated and compounded for oil field use, which, together with our method of factory installation, means that you get several times the service usually received.

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ONE *operator reports:*

"W-K-M lined brake bands were recently exchanged for our worn ones on the derrick floor in one hour and ten minutes. This saved us 3½ hours drilling time, which, at a conservative cost per hour, means that the time saved paid for the lining, making our net cost practically nothing. The change was made at 5700 feet, and we had no trouble at all in holding our pipe on the first trip, which we consider unusually good performance, as we generally line only one band at a time at such depths."

ANOTHER *operator reports:*

"On a wildcat well which we recently drilled in the Gulf Coast area it usually took six hours to reline our brake bands on the derrick floor under the most favorable conditions. Our cost department charges us $350.00 for this operation, which includes the cost of the lining.

"We will certainly use your Band Exchange Service in the future, as our cost will be cut about one-half."

The Newer Bearing Materials and Their Lubrication

H. C. MOUGEY
General Motors Research Laboratories

The subject of bearings covers a very large field. Whenever two surfaces rub together, we have a bearing. As an illustration of a thrust bearing we may cite the block or device that applies pressure on one end of a rotating drill to cause the other end of the drill to make a hole. Long before mankind had developed from the state of savages, the drill with thrust bearing was in common use to produce holes in shells, beads, etc. We are all familiar with the sliding bearing, such as when a piston slides in a cylinder. We are also familiar with the rotating bearing, such as we have when a journal rotates in a bushing or when a wheel turns on an axle. In this discussion we shall confine ourselves to this last type of bearing, the rotating bearing such as we have at the center of a wheel.

Now it is evident that in order to have a bearing at the center of a wheel, we must first have a wheel. The wheel is very old, and we do not ordinarily give much thought to the invention of the wheel; but, in reality, the wheel is a very complex structure, and it required a very high order of invention to produce the wheel. . . .

The first commercial steam engines — which, during the period of from 1705 to 1780, were used largely for pumping water — were very crude affairs, and their bearing requirements were not severe. However, the improvements by Watt, dating from 1769, soon developed the steam engine to a state where better bearings were required for both engines and the machines operated by the engines. As a result of this need, attention has been focused on this problem, and within the last 100 years many developments have occurred.

BABBITT PATENT

The first of these inventions, and probably the most important, was that of Isaac Babbitt, Patent No. 1,252, July 17, 1839. This invention consisted in lining a metal shell with an alloy of the general type of pewter. Ever since the time of this invention, an alloy of the general composition of pewter, when used for bearing purposes, has been known as "babbitt." Contrary to the commonly accepted idea, Babbitt did not invent the alloy which bears his name; and, as a matter of fact, tin-base alloys similar in composition to the kind of material used

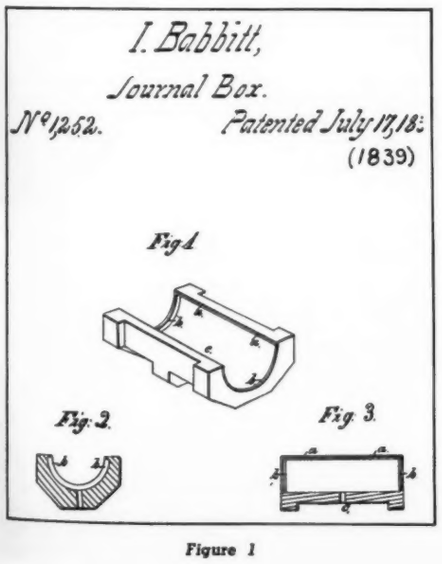

Figure 1

H. C. MOUGEY

by Babbitt in this bearing had been known for thousands of years. The following quotations and the sketch (Figure 1) from Babbitt's patent show that Babbitt simply used pewter or Britannia metal or some similar alloy already well known, and the chemical composition of the pewter was not the important part of the invention:

Lines 22 to 31 (Patent No. 1,252):

"The inner parts of the boxes are to be lined with any of the harder kinds of composition known under the names Britannia metal or pewter, of which block tin is the basis. An excellent compound for this purpose I have prepared by taking about 50 parts of tin, five of antimony, and one of copper, but I do not intend to confine myself to this particular composition."

Claim, lines 93 to 101 (Patent No. 1,252):

"The making of the boxes for axles and gudgeons, in the manner above set forth; that is to say, by the casting of hard pewter, or composition metal, of which tin is the basis, into said boxes, they being first prepared and provided or not with rims or ledges, and coated with tin, as herein described and made known.

ISAAC BABBITT."

Since Babbitt's time many people have worked on the subject of bearings, and as a result there are now a number of bearings of different types. Some of the most important of these bearings, together with their composition and the date of their invention, are as shown in Table 1.

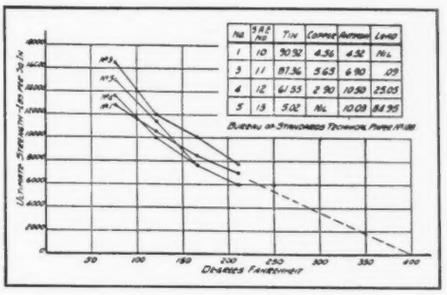

Figure 2

There is certainly a very wide range of materials and percentages of these materials in this list of bearings and, consequently, it may be desirable to raise the question: "what is a bearing?" There are two theories that have been advanced to explain bearings. According to one theory[1a] a bearing must be a combination of hard crystals

TABLE 1—SOME BEARINGS AND THEIR COMPOSITION

Bronzes (or High Copper Alloys)

	Copper	Lead	Tin
1870—Dick	80	10	10
1892—Dudley	77	15	8
1900—Clamer and Hendrickson	(73)	20 (min.)	7 (max.)

1904—Clamer (Patent No. 769,337). A stiff back with a lining of high melting point. (This is the original steel-back copper-lead bearing.)

High Lead Alloys

1905—"No Heet"	Lead	96-99.5
	Sodium	4- 0.5

1915—Ulco metal, Frary metal, Mathesius, Lurgi Lagermetall, Bahumetal, Satco, etc. (lead hardened with alkali and alkali-earth metals).

Cadmium Alloys

1909—Touceda, Patent No. 934,637	Cadmium	95-99.5
	Magnesium	5- 0.5
1933—Schwartz and Phillips, Patent No. 1,904,175	Cadmium	93-99.75
	Nickel	7- 0.25
1935—Smart, British Patent No. 436-633	Cadmium	97.0-98.0
	Copper or Nickel	0.25- 0.50
	Silver	1.75- 2.50

S.A.E. Babbitts (Typical Compositions)
(Adopted 1922)

S.A.E. No.	Tin	Lead	Copper	Antimony
10	90.0	0.35 (max.)	4.5	4.5
11	87.0	0.35 (max.)	5.75	6.75
12	59.50	26.00	3.0	10.50
13	5.0	84.0	0.50 (max.)	10.0
14	10.0	74.0	0.50 (max.)	15.0

Special Compositions

Graphite bearing metal, oilless bearings, porous bearings, Graphalloy, Genelite, Durex, Oilite, etc. (porous bearings, high in copper, and containing small amounts of such materials as tin, lead, graphite, etc. These bearings are usually impregnated with oil before use).

in a matrix of softer material; the hard crystals are supposed to carry the load, and the softer matrix is supposed to permit deformation of the bearing so as to permit a more nearly uniform distribution of pressure.

It is our belief that the "hard crystal and soft matrix" theory is incorrect, and that this theory

A.P.I. **—Presented at Seventeenth Annual Meeting, Chicago, Nov. 12, 1936**

has very greatly retarded the development of bearings. It is true that certain soft metals, such as lead, tin, cadmium, etc., although good in antifriction and anti-scoring properties, are low in mechanical strength, and an increase in mechanical strength may be obtained either by bonding these materials in thin layers to stronger materials or by combining them with certain materials to give a fine mechanical mixture of soft metal and hard crystals. However, it is the resulting combination of properties, and not the hard and soft crystal method of obtaining these properties, that is important.

According to the second theory the crystal structure is of little or no importance, but the

[1a]Figures refer to bibliography.

TAKING THE BULL BY THE HORNS

Sucker Rod specifications have recently been on the rampage. Variations almost without end have tended to demoralize both production and inventories.

We are fully aware of the manifold differences in oil wells as to depths, capacities and characteristics of the crude, but after long experience in all the oil fields of the world, we see no reason why Sucker Rods should not, in general, be reduced to three basic qualities. Properly manufactured, these three grades will, in our opinion, fully meet all requirements in every field, and contribute many advantages and substantial benefits to both users and makers. We therefore offer the following:

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A First Rod *of high quality, moderately priced for use in light and reasonably heavy pumping operations.*

A Second Rod *of excellent quality, with high tensile, high ductile characteristics which meets reasonably-heavy, heavy and extra-heavy pumping conditions.*

A Third Rod *combining the best features of the Second, but with the added advantage of meeting conditions in wells where corrosion constitutes a problem.*

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OIL WELL PUMPS **AXELSON** SUCKER RODS

bearing must have a combination of properties so that it will resist the forces to which it may be subjected in service. These properties are tabulated in Table 2.

TABLE 2—BEARING PROPERTIES

1. Mechanical strength
2. Bonding characteristics
3. Melting point
4. Fatigue resistance
5. Antifriction characteristics
6. Nonscoring characteristics
7. Conformability
8. Embeddability
9. Corrosion resistance

The particular combination of properties required by a bearing depends upon the forces to which the bearing is subjected. Leaded bronze, of the composition copper 88, tin 4, lead 4, and zinc 4, is excellent for the bearing for the small end of an automobile connecting rod; and steel-backed high-tin-base babbitt bearings are in general use for the large ends of connecting rods—but very unsatisfactory results would be obtained if these bearings were reversed, and the leaded bronze of the above composition used for the big end and the babbitt for the small end.

A cake of paraffin is excellent in properties 5, 6, 7, 8, and 9 in the table of "bearing properties," but it would make a poor connecting-rod bearing on account of being very poor in properties 1, 2, 3, and 4.

Under certain conditions other properties or combinations of properties may be important. Canvas impregnated with bakelite is coming into general use for certain very severe bearing conditions, such as some of the bearings in steel mills; but this material is unsatisfactory for automobile connecting-rod bearings for high-speed operation, because the heat generated at the bearing surface cannot be dissipated rapidly enough, and the rubbing surface of the bearing soon chars.

In general, a bearing metal need not have all of the properties in Table 2; it requires only the ones that will enable it to resist the forces to which it will be subjected in service. Tin-base babbitt (S.A.E. 11) is in general use in large-end connecting-rod bearings; but S.A.E. 11 is very low in mechanical strength, in melting point, and in fatigue resistance. However, it is excellent in its bonding characteristics, and the combination of a steel back bonded to a very thin lining of S.A.E. 11 produces a bearing which is much superior to a straight S.A.E. 11 bearing in mechanical strength and fatigue resistance. The anti-friction characteristics of a steelback babbitt-lined bearing are so good that the temperature rise due to friction may be low enough so that the low melting point of the S.A.E. 11 is not fatal. Such a bearing is good in nonscoring characteristics, in conformability, in embeddability, and in corrosion resistance.

However, most tin-base and lead-base babbitts tend to lose their strength very rapidly at elevated temperatures.[2] This tendency is shown by the curves in Figure 2. In modern automobile engines this loss in strength, due to higher crankcase temperatures, is so serious that many attempts are being made to replace S.A.E. 11 with other materials. In the case of connecting rods for airplane engines, S.A.E. 11 is already practically obsolete, and other bearing materials that have higher strength at elevated temperatures are in general use. Lead and cadmium have higher melting points than tin; and, although these metals do not offer as much increase in strength at elevated temperatures as might be desired, they may have enough advantage over tin—especially in borderline cases—to make all the difference between success and failure. High-lead-base bearings and cadmium bearings are coming into general use for such types of service as connecting rods for diesel engines.

In trying to replace S.A.E. 11 it is very easy to get a material that will be superior in one or two respects, such as mechanical strength or high melting point; but such a bearing may be lacking in other important respects, such as corrosion resistance or anti-friction characteristics or nonscoring characteristics. When used in crankcases with corrosive oils or with oils that become corrosive due to oxidation of the oils, certain high-lead or cadmium bearings may fail very rapidly due to corrosion. Attention has previously been called to the fact that the alloy,-copper 88, tin 4, lead 4, and zinc 4, is unsuitable for large-end connecting-rod bearings in automobile engines. This is because it will cause scoring of the crankshaft under high-speed operating conditions, although it will not score the shaft under sufficiently low-speed operating conditions. It is due to the low rubbing speed at the small end of the connecting rod that this alloy can be used for a piston-pin bearing.

SCORING

This problem of nonscoring is one of the most important in developing connecting-rod bearings; but, unfortunately, we have very little reliable information as to why certain metals score and others do not. In discussing this general problem Tomlinson[3] says:

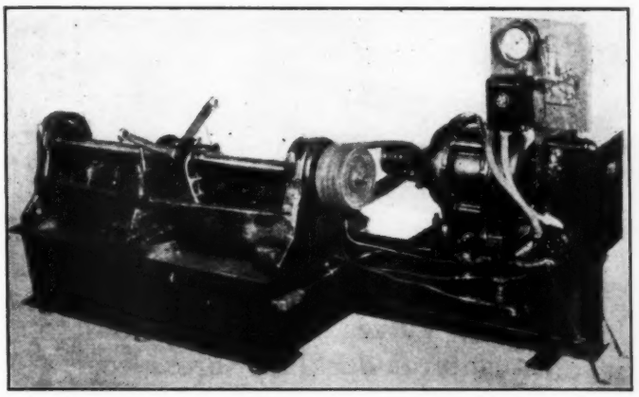

Figure 3

"It is not easy to obtain any direct experimental evidence that molecular cohesion takes place, although strong molecular forces would be expected when the boundaries of two solids are brought together within the range of the molecular fields. That molecular cohesion occurs when two clean solids touch seems to be certain. Sir W. Hardy has expressed the opinion that the static friction between clean surfaces is due to cohesion."

Bowden and Ridler[4] have reported in the Proceedings of the Royal Society on some work that they did to determine the temperatures of the surface layers of bodies during sliding. The surface temperature was measured by using the rubbing contact of two different metals as a thermocouple, and determining the electromotive force generated on sliding. Experiments showed that the local temperature—which depended upon load, speed, coefficient of friction, and thermal conductivity—might be surprisingly high, reaching more than 1,000° C. (1,832° F.) in some cases. With lower-melting-point metals, the melting point of the metal was the maximum temperature that could be reached. In tests on lubricated surfaces they obtained similar results. For example, a polished metal surface, well lubricated with "Castrol XL," and running smoothly with a low coefficient of friction, showed a surface temperature of over 600° C. (1,112° F.). This high temperature was localized at the sliding surface, the mass of the metal was at room temperature, and there was no evident sign of heating.

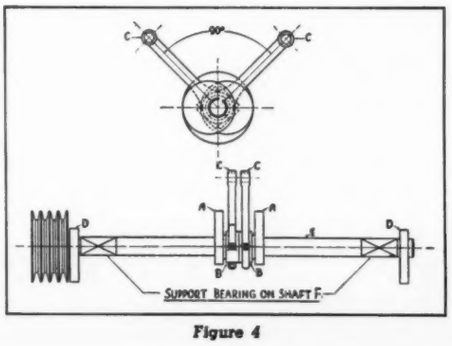

Figure 4

A joint research committee of the American Society for Testing Materials and the American Society of Mechanical Engineers has been working on the "Effect of Temperature on the Properties of Metals." In this work the seizure of metals at elevated temperatures has been studied. The following sentences are taken from a condensed report of this committee.[5]

"One of the causes of failure of metals at high temperature is seizure, the incipient welding together of two metal surfaces in contact. . . . . While perfectly matching surfaces will weld readily, in order to bring surfaces of ordinary smoothness of finish into molecular contact it is usually necessary that one surface at least be fairly plastic and be pressed against the other so as to force them into molecular contact. In many such cases plasticity is brought about by elevated temperature, so that the seizure problem is quite generally a high-temperature problem. . . . . Unless they are soluble in the solid metal at the temperature in question, oxide and other non-metallic films prevent metallic contact of the coating surfaces, and may thus prevent seizure. A film of oil, or even of adsorbed gas, will likewise prevent contact."

The findings of this committee are in accord with the results of work at the National Bureau of Standards,[6] in which it was found that under certain conditions of load and rubbing speed, with steels of certain properties, metal-to-metal contact would occur, and that seizing, welding, and very rapid wear would occur. However, if the test conditions were modified somewhat, adherent oxide films would form on the surfaces of the steel; and, under exactly the same conditions of load and rubbing speed, these oxide films would prevent metal-to-metal contact; and, as a result, there would be no signs of seizing or welding, and the rate of wear would be extremely low.

NON-SCORING CHARACTERISTICS

In the report of the joint A.S.T.M.-A.S.M.E. committee[5] descriptions are given of various testing machines which are used to determine the nonscoring characteristics of metals, but experience indicates that it is difficult to obtain check results with such machines unless all the test conditions are very carefully standardized; and it is difficult to correlate the results of such machines with performance in service. For this reason a test in an engine under actual service conditions is the only true test of nonscoring; and, since the requirements in different engines may be different, a bearing that scores in one engine may be nonscoring in another engine of slightly different design or operated under different conditions.

Of course, under true "fluid-film" lubrication conditions, there is a film of oil between the metal surfaces—and scoring is prevented by this film of oil, and the composition of the bearing metals is of no importance. However, when this fluid film breaks down, then it appears to be necessary that the bearing metals must be separated by a film of some kind to prevent molecular contact with resulting scoring or welding. In the case of "extreme-pressure" lubricants, which are attracting so much attention at the present time on account of their importance for the lubrication of hypoid gears, the film which prevents scoring is iron sulfide or iron chloride or some similar material. In the case of tin, lead, or cadmium bearings as used in connecting rods in automobile engines, it appears that a film of some kind must be formed so easily with all oils that scoring is not a problem with these bearing materials. Under noncorrosive conditions, failures of these types of bearing materials are due to "fatigue," and the quality of the lubricating oil usually has little or nothing to do with failures of these bearings. Of course, it may happen that under some conditions the lubricating system of an engine cannot keep the bearings supplied with oil due to the oil being too high or too low in viscosity, or due to the oil

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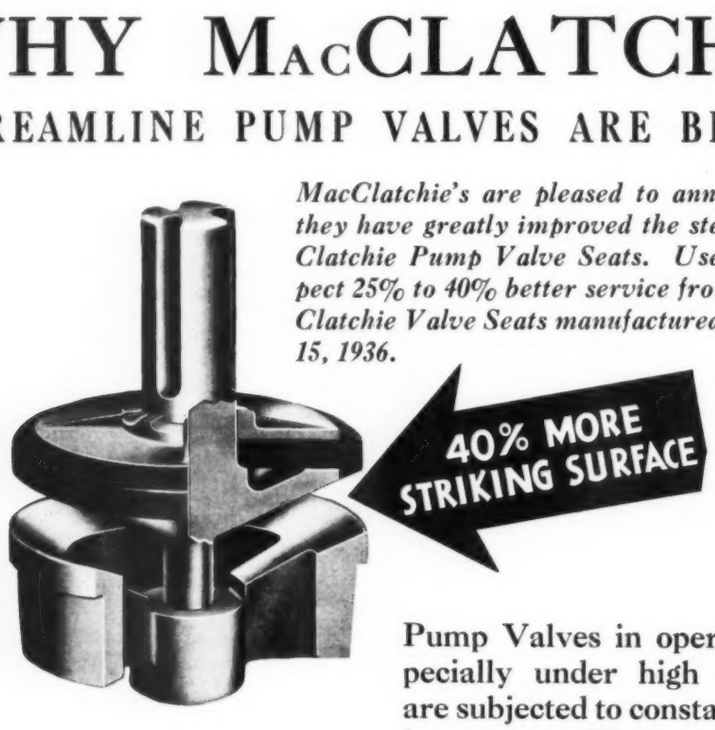

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being too far below its pourpoint—and in such cases the bearings may fail due to lack of oil of any kind, regardless of the quality of the oil.

FATIGUE RESISTANCE

Since with clean oil and in the absence of corrosion or scoring troubles, bearings fail by lack of resistance to fatigue, and since resistance to fatigue in an engine cannot be determined by the conventional tension, compression, or impact tests, and since the quality of the oil usually has little or nothing to do with resistance to fatigue, it is very important in developing bearings to be able to measure resistance to fatigue. This can be done by operating the bearings in an engine under very high-speed, high-temperature, and high-load conditions. This actual engine test must always be made as the final test before drawing definite conclusions as to resistance to fatigue. However, under these severe conditions, other parts of an automobile engine are also subject to failure, and it is not a simple matter to make fatigue tests in engines. Consequently, for preliminary work, a laboratory testing machine is desirable.

The loading on connecting rods is quite different from the loading on bearings used for line shafts, etc. In the case of a connecting-rod bearing the load travels around the inside of the bearing; and, on account of the lightness of the connecting rods, a certain amount of deflection of the bearings usually occurs. In our laboratory we use a bearing testing machine like the one shown in Figures 3 and 4. The eccentric weights (A-A) tend to make the shaft "bow out," thus putting a rotating load on the inside of the connecting-rod bearings (B-B). The connecting rods are spaced at an angle of 90 degrees, and are held with piston pins at the small ends (C-C). The eccentric weights (D-D) are for the purpose of counterbalancing the weights (A-A), so that the testing machine as a whole does not vibrate. Oil is fed to the bearings under test by holes in the shaft (E), so that the bearings are lubricated just as they would be in an engine.

The temperature of the oil is controlled by electric heaters immersed in the sump. The temperature of the bearings is determined by thermocouples embedded just beneath the surface of the babbitt, and the temperature of the oil in the sump is controlled so as to maintain the bearings at the predetermined temperature. In our work this bearing temperature is usually 174° C.-176° C. (345°-349° F.). The temperature of the oil in the sump is usually between 135° C. (275° F.) and 149° C. (300 ° F.) since the difference in temperature between the oil in the sump and the bearing depends upon such factors as load, speed, bearing clearance, oil viscosity, coefficient of friction of the bearing, etc. The test machine is usually operated at a speed of 4,500 r.p.m., with the eccentric weights adjusted to give a calculated bearing load of 1,400 pounds per square inch projected area. If the bearings are not resistant to corrosion, the test must be made with an oil that will not develop corrosive acids on oxidation under the test conditions. If it is desired to test the performance of the bearings with corrosive oils, then either 1 per cent of oleic acid is added to the lubricating oil, or corrosive acids are allowed to form as the result of oxidation of the oil in the test machine. In our tests we have standardized on S.A.E. 30 oil, although we do not find any measurable difference in bearing life in engines over the range of viscosities of from 10-W to S.A.E. 40, provided the lubricating system in the engine can keep the bearings supplied with oil under all conditions.

By means of this machine it is possible to compare the fatigue resistance of different bearing materials, making the tests in the actual connecting rods in which the bearing material is to be used. Since the details of construction of the rod and of the bearing greatly affect the resistance to fatigue, an inferior bearing material in a well-designed rod may be superior to a better bearing material in an inferior rod. For this reason it is impossible to give definite figures as to the relative merits of different bearing materials, and each engineer tries to get the best all around results in his own engine.

Conformability is the property of a bearing that permits it to deflect or distort enough to give a

more uniform distribution of pressure. This result may be accomplished by design of the bearing or by composition of the bearing alloy, or both. The cap of an automobile connecting rod is subject to much higher calculated loads than the part of the bearing in the main part of the rod; but due to the fact that the cap is usually sufficiently flexible to permit a more uniform distribution of the load, the life of the cap half of the bearing is usually much greater than that of the rod half of the bearing.

Embeddability is the property of the bearing that permits the embedding of small particles of dirt in the bearing, thus decreasing the abrasive action of these small particles. Examination of a used babbitt bearing will usually show many small particles of iron, or other hard materials; but these have been embedded in the bearing to such an extent that they no longer tend to cause abrasion.

Corrosion resistance is a property that may be very important. Ordinary mineral oil, regardless of the crude or method of refining, is usually very low in acidity or corrosive tendencies. However, under certain conditions, as the result of oxidation—especially at elevated temperatures—organic acids that probably are quite similar to oleic acid may be formed. Lubricating oils differ greatly in their tendency to form acids by oxidation under high-temperature conditions. All crudes contain varying amounts of inhibitors that decrease the tendency of oils to oxidize, but these inhibitors may be removed from the oil to a greater or less extent by the various refining methods. As a result, a year or so ago, many of the more highly refined lubricating oils were subject to oxidation at high crankcase-oil temperatures, with the resulting development of acids that would corrode certain bearing materials such as cadmium or some of the high-lead materials. The subject is getting to be better understood by oil chemists and, as a result, many oil companies are now in production on lubricating oils that, although very highly refined, are very resistant to the development of corrosive acids.

It is evident that there are three solutions to the problem of corrosion of bearings. These solutions are:

1. Develop oils that will not form corrosive acids, even under severe operating conditions.
2. Decrease the crankcase temperatures to such an extent that all oils will be free from oxidation.
3. Use bearings that are not subject to corrosion, even with acid oils.

CONCLUSION

From the standpoint of the bearings, much progress is being made. The high-tin babbitts, S.A.E. 10, 11 and 12, and the high-lead babbitts, S.A.E. 13 and 14, are not subject to corrosion in engines. Cadmium bearings, of present composition, are subject to corrosion, as are also certain of the high-lead babbitts such as those hardened with alkali and alkaline-earth metals. Copper-lead bearings are a sponge of copper holding practically pure lead in the pores of the copper sponge. Corrosive acids remove the lead from the surface of such a bearing, leaving a bearing surface of copper but without the increase in clearance that would result from the corrosion of cadmium or high-lead bearings. Under present conditions it is easy for an automobile company to change in production from one bearing material to another. Consequently, bearing materials now in production may not be the same as those that will be used six months from now. Probably all the bearing materials now in use will continue to be used, wherever they are found to be suitable, and the probabilities are that the list of bearing materials will be increased as a result of a better knowledge of the entire bearing problem.

This problem of lubricants for the newer bearing materials, which at first appeared to be rather serious, is now being handled in a very satisfactory manner. The oil and automotive engineers have cooperated on this problem; the oil engineers have made improvements in their lubricants, and the automotive engineers have done what they could from the standpoint of the engine and the bearings. From time to time in the past, situations have arisen which at first appeared to be very serious. However, as the result of cooperation between the

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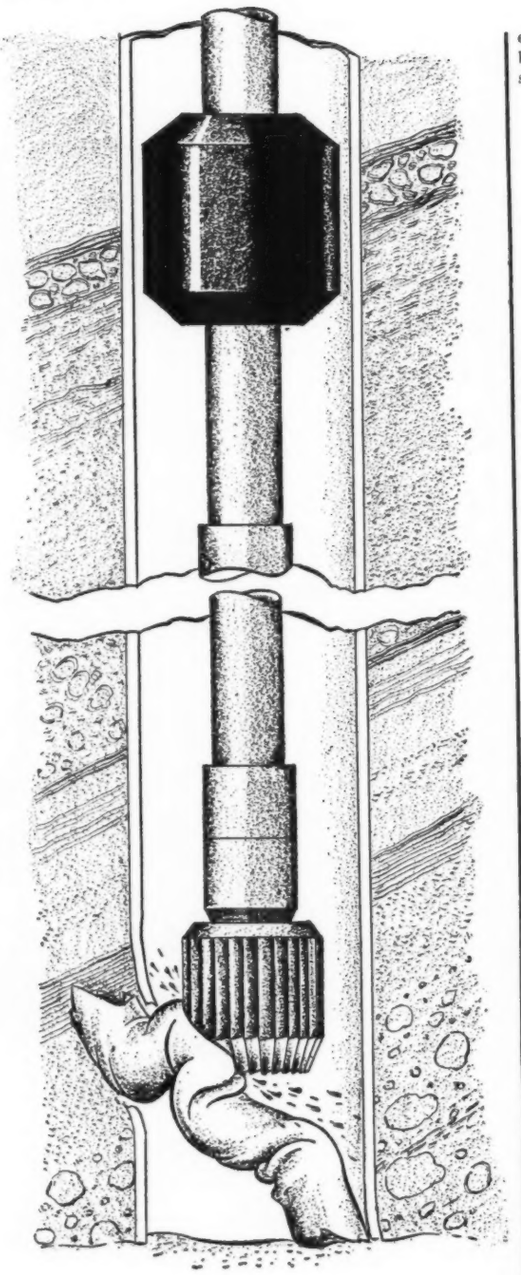

STABILIZER SIZES

Rated Size	O. D. Drill Pipe	O. D. Expanded On Drill Pipe	Weight Pounds	Code Name
3"x7"	3½"	7"	9½	Poppy
4"x7"	4½"	7"	7½	Violet
4"x9"	4½"	9"	15	Moss
5"x7"	5 9/16"	7"	7¼	Flax
5"x9"	5 9/16"	9"	12¼	Lilac
5"x10¾"	5 9/16"	10¾"	21½	Jasmine
5"x12"	5 9/16"	12"	30	Ivy
5"x14"	5 9/16"	14"	44	Geranium
5"x16"	5 9/16"	16"	60	Buttercup
6"x10¾"	6⅝"	10¾"	18	Fern
6"x12"	6⅝"	12"	27¼	Daisy
6"x14"	6⅝"	14"	41	Clover
6"x16"	6⅝"	16"	59¼	Aster
6"x18"	6⅝"	18"	93	Thistle
7"x19"	7⅝"	19"	90	Cactus
8"x13"	8⅝"	13"	27¾	Rose
8"x16"	8⅝"	16"	53½	Gardenia
8"x19½"	8⅝"	19½"	88½	Pansy

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oil and automotive engineers, these problems have been solved. The list of these problems includes such subjects as those shown in Table 3.

TABLE 3—PROBLEMS SOLVED BY COOPERATION BETWEEN THE PETROLEUM AND AUTOMOTIVE INDUSTRIES

1. Crankcase dilution
2. Crankcase corrosion
3. Gum and antiknock
4. Vapor lock
5. Cold starting
6. Lubricants for the new bearing materials

In the early days, crankcase dilution and crankcase corrosion were very serious problems, but improvements in gasoline and the use of crankcase ventilators and jacket-water temperature control solved the problem. When gasolines of improved antiknock properties were first made, considerable trouble due to gum was experienced. However, both the oil and automotive engineers made the necessary changes, and this problem of gum is now of minor importance. Vapor-lock difficulties have not entirely disappeared, but the control of vapor pressure of the fuel and improved fuel-handling systems have resulted in this trouble being under control. Several years ago cold starting was very serious, but more suitable lubricants, together with improvements in starting systems, have corrected this situation. In a similar manner, as a result of the cooperation between the two industries, the problem of lubricants for the newer bearing materials is no longer a serious problem. It appears that by a continuation of this cooperation these problems may be kept under control, and other problems which may arise in the future may be solved.

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Motorists Are Pouring Billions into Federal Treasury

Motorists have poured $2,252,708,041 into the United States treasury since 1918, when the first national automotive taxes were imposed, according to a summary compiled by the American Petroleum Industries Committee from Bureau of Internal Revenue reports.

Federal taxes on automobiles, tires, trucks, inner tubes, and parts and accessories were levied in 1918 as emergency taxes to help defray the cost of the war. By May 29, 1928, all these levies had been repealed. They had brought in a total revenue of $1,174,416,064 in the 11 years during which they were in operation.

The revenue act of 1932 not only renewed the former automotive taxes, but added to them a tax on gasoline and lubricating oil. The federal gasoline tax duplicated a form of taxation already levied by all the states, and in some cases by counties and municipalities.

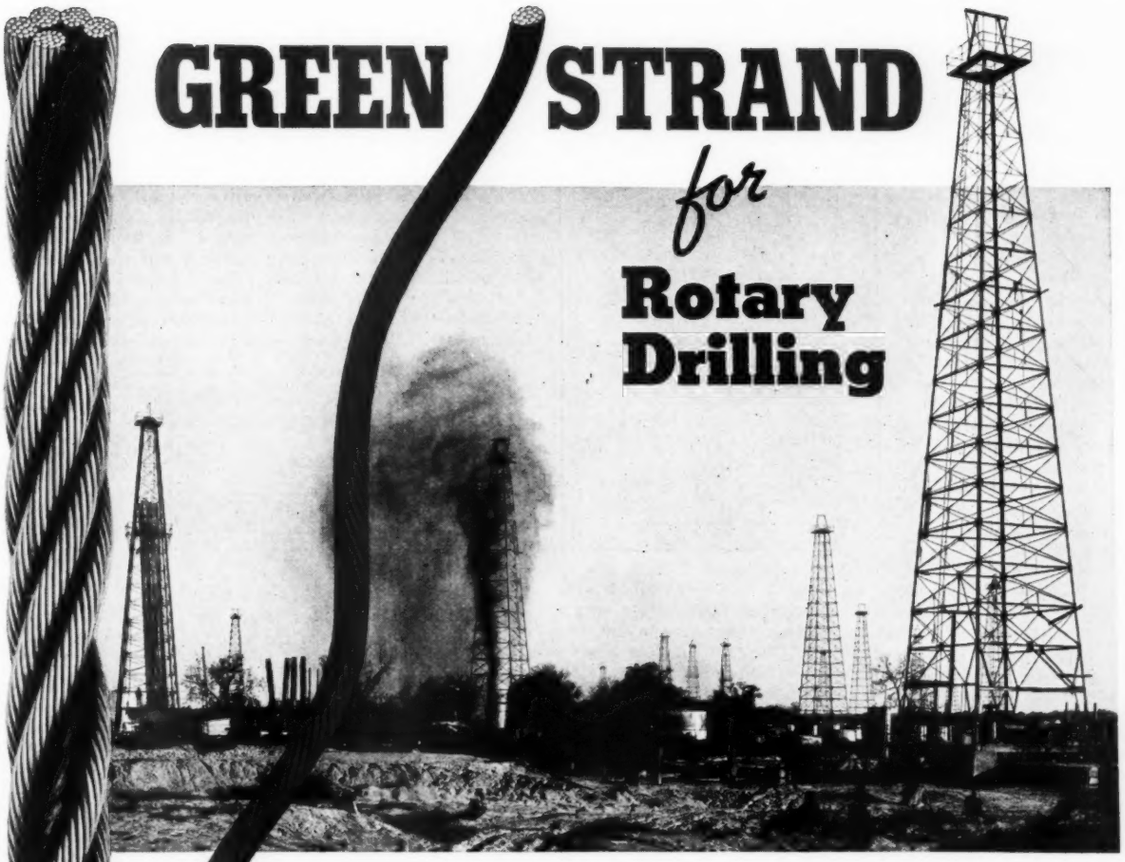
The cost to motorists of federal taxes for the four fiscal years ending June 30, 1936, amounted to $1,078,291,977, or about 48 per cent of total collections since 1918. The gasoline tax alone accounted for $666,376,325, or 62 per cent of this sum.

For the fiscal year collections were higher than in any previous year, amounting to $309,919,476 and, it is estimated, increased the tax burden already imposed upon motorists by the states by more than 25 per cent.

Oil Burner Show Announced

NEW YORK, Nov. 16.—National Oil Burner and Air Conditioning Exposition will be held in Philadelphia, Pa., March 15 to 19.

GREEN STRAND *for* Rotary Drilling



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These several features, characteristic of LAY-SET Preformed Green Strand, mean longer service life, lower replacement labor costs, fewer shutdowns, steadier drilling.

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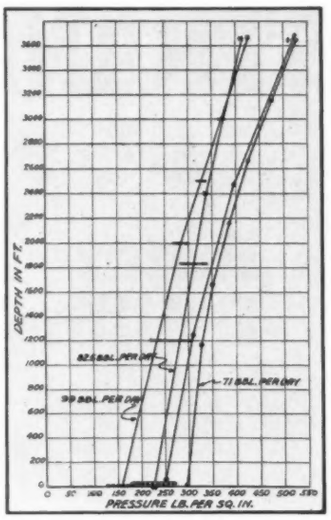
ABSTRACTS OF

A Preliminary Investigation of Flowing Wells

By EMORY KEMLER
and G. A. POOLE
Gulf Oil Corp.



The low cost of producing oil from flowing wells makes it desirable to study the possibilities for increasing the flowing life of wells and for the more accurate control of bottom-hole pressures and gas-oil ratios by proper tubing design. In their discussion the authors deal with some of the aspects of this general problem, and give the results of a preliminary investigation of flowing wells in the West Texas area. Some of the possible applications of data obtained from the flow tests of the wells included in the investigation are indicated. An analysis of data obtained from 34 tests on wells flowing under widely different producing conditions shows that the gas-oil ratio has a greater effect on pressure differences in the tubing than does the tubing size or rate of flow. The ratio of free gas to amount of gas in solution is also undoubtedly an important factor. The accompanying photograph shows curves of flowing pressures plotted against the depth for one of the wells tested by the authors for various rates of flow. They state that this well showed no signs of heading at low rates of flow, but headed considerably at the higher rates of flow. There was as much as 100 pounds variation, they state, in tubing pressure, and no variation in the pressure at the bottom of the well. The pressure drop is seen to decrease with the rate of flow for this well.

The pressure drop in the tubing is not caused entirely by friction as might be supposed, they state, but is a combination of the effect due to friction and the difference in pressure due to fluid head. The difference in pressure is due mostly to the actual pressure head, and it is for this reason that the gas-oil ratio exerts an important effect through the aeration of the column and consequent changes in the static head. The effect of tubing size, except for very large or small rates of flow, will tend to cancel out; as the pipe size is increased, the friction decreases, but the slippage increases, so that the net change is unimportant as compared with other factors.

An Oil-Well Pump Dynagraph

By WALTON E. GILBERT
Shell Oil Co.

WALTON E. GILBERT

A bottom-hole instrument for recording the action of oil-well plunger pumps is described by the author, the instrument being known as a pump dynagraph. The instrument provides indicator diagrams analogous to the indicator diagrams ordinarily obtained for engines, compressors and surface pumps, with the principal distinction that no zero-pressure line is traced on the record. Indication of the plunger loading is obtained by recording the stretch in a calibrated length of the sucker-rods immediately above the pump, a stylus which bears on a cylindrical tube being used for this purpose. At the same time, the plunger motion is recorded by rotational oscillations of the stylus. Upon completion of the test, the recording tube is removed from the instrument to form a permanent test record. The author then describes the interpreting of the pumping action from dynagraph cards, correlating the information recorded on the card with the action of the pump. Several tables and diagrams are presented to show the relation between the plunger stroke and pumping speed. In discussing the dynagraph measurements of production rates, Mr. Gilbert states that its use has proved conclusively that loss of displacement in wells at pump setting below 5,000 feet of depth is generally not due to loss of stroke, but may often be attributed to ineffective separation of gas from the liquid pumped. He believes that "pumping-up" tests may prove of value in supplying information from which the approximate stroke with any size of plunger in a given well may be predicted. To do so, a number of dynagraph cards are taken as the fluid is being pumped to the surface, preferably using a plunger of maximum diameter. Having established the relationship between plunger stroke and loading, the load expected for any smaller size of plunger may be estimated and the corresponding plunger stroke determined. It was found that individual comparisons, between work done at the pump and work supplied per cycle at the polish-rod, varied widely. The opinion is advanced that rods are an inefficient means of power transmission. Individual wells probably differ widely in this respect, he states, however it is apparent from data obtained that rod-frictional losses in wells are not excessive at ordinary pumping rates.

Means of Recognizing Source Beds

By PARKER D. TRASK
and H. WHITMAN PATNODE

H. WHITMAN PATNODE

Eight characteristics of sediments are considered as possible means of recognizing source beds: (1) Quantity of organic matter in the sediments; (2) reducing power, which is a measure of ability of the sediments to reduce chromic acid; (3) color of sediments; (4) volatility of sediments; (5) degree of volatility, which is a measure of the volatility with respect to the organic content; (6) ratio of carbon to nitrogen in the sediments; (7) oxidation factor, which is an index of the state of oxidation of the sediments, and is the ratio of the carbon content to the reducing power; and (8) the nitrogen-reduction ratio, which is the ratio of the nitrogen content to the reducing power. The thickness of these units ranges from 50 feet to 500 feet. Each of them has been classified according to its probable richness in source material of petroleum. Nearness to producing zones has been the basis of classification. Three classes were made: (1) Lithologic units within 250 feet stratigraphically above or below an oil zone and less than 2 miles from an oil field; (2) (a) units within 500 feet above or below an oil zone and within 15 miles of an oil field (excluding, of course, those that belong to the first class) and (b) units within 250 feet stratigraphically of a horizon and more than 15 miles distant from an oil field, provided the unit is located within a region in which the horizon is generally productive of oil or yields significant quantity of oily substances when extracted with ether; and (3) all other beds, viz., those more than 500 feet above or below an oil horizon or more than 15 miles distant from an oil field and beds at greater distance if they are within 250 feet of horizons that generally contain oil in the area. These three classes are designated in this report as "productive," "questionably productive," and "barren."

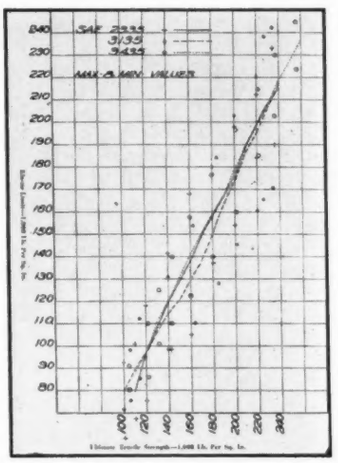
The average organic content of the "productive" and "barren" units was found to be approximately the same in each region studied, from which it is inferred that the quantity of organic matter in a sediment probably is not a reliable guide of the ability of the sediments to generate oil. The average reducing power of the "productive" beds is slightly greater than that of the "barren"; but the difference is so slight that the reducing power, also, probably is not a satisfactory guide to source beds. The color of the sediments, in general, becomes darker as the organic content of the sediments increases; and, as the organic content seems to be a poor index of source beds, color presumably is not a serviceable means of recognizing source beds. The volatility of the "productive" beds is greater than that of the "barren" units in each of the five regions, but it differs so much from region to region that it cannot be used as an index of source beds unless the general volatility of the sediments in the region under consideration is known. The degree of volatility differs less from region to region than does the volatility, and in general exhibits a relationship to productivity equally as good as the volatility. The average ratio of carbon to nitrogen in each of the three regions from which data are available—Rocky Mountains, Mid-Continent, and East Texas—is higher for "productive" beds than for "barren" units, but the ratio differs somewhat from one region to another. The oxidation factor of the "productive" units is approximately the same as that of the "barren" units in the Rocky Mountain region and in the East Texas region, but not in the Mid-Continent region—where the oxidation factor of the "productive" units is definitely lower than that of the "barren" units.

A.P.I. ADDRESSES

The Relation of Mechanical Testing to Steel Performance

By WILLIAM H. CLAPP

California Institute of Technology



The extent to which the mechanical properties of steel, as determined by standard laboratory tests, are a measure of steel performance in actual service is discussed by the author. The various mechanical properties of a large number of alloy steels are compared; and it is shown that the differences in average values of any one property, such as yield point, is much less than the variation from average which may occur in any one type of steel. The elastic limits of S.A.E. 3,135, 3,435 and 2,335 steels are plotted against corresponding tensile strengths, and are shown as curves in the accompanying plat. The unconnected points represent maximum and minimum values, which are plotted against the mean value in each case. It is apparent that the variation in any one steel may be greater than the variation in the average values of the three steels. The uncertainty regarding the physical factors which determine yielding is discussed. The author states that four different types of steel failure are recognized: (1) The ductile type of failure, brought about by overload; (2) the brittle type of failure, which takes place because of sudden shock (impact); (3) the progressive type of failure, which occurs when material is subjected to variations in stress and usually after a large number of repetitions of stress (fatigue); and (4) the exceedingly slow but continuous stretch of steel under load at high temperatures (creep). He then shows that the mechanical properties of steel give us an incomplete picture regarding each type of failure. Finally, the author makes a plea for the rating of various steels on a basis of dependability in which a high coefficient of dependability would correspond to a narrow range of variation in some particular property after the steel has been heat-treated to give a desired value of that property.

The Lubrication Requirements of Automotive Rear Axles

By H. R. WOLF

General Motors Research Laboratory

The commercial type of extreme-pressure lubricants has been somewhat limited and they have not been generally available through the usual retail-marketing outlets for automotive lubricants. However, the recent widespread adaption of hypoid and highly-stressed spiral-bevel rear-axle gears, which require the use of the powerful type of E.P. lubricant for satisfactory performance in service, has created a marketing and distribution problem that can be solved only through the cooperative efforts of the automotive and petroleum industries. In his discussion of the problem of rear-axle lubrication the author states that failures of rear-axles in service are due to: tooth breakage, surface pitting and scoring or scuffing. The first two, he states, are due to failure of the gear material in fatigue, and have not been shown related to, or influenced by, lubrication. Scoring or scuffing of the tooth profile surface is caused by actual welding of small areas along the tooth contact lines. In the case of highly-stressed spiral-bevel and hypoid rear-axle gears the use of E.P. lubricants, that function through the formation of a solid film, on the gear-tooth surface, is required. These solid films prevent metal-to-metal contact between the sliding or rubbing surfaces.

The stress on a gear-tooth is sometimes erroneously pictured as being applied over a large portion of the gear-tooth profile area, he states. The actual momentary tooth contact area on three adjacent meshing teeth is shown in the above picture. The white lines, which appear as high lights in the photograph are the actual tooth contact lines. The balance of the tooth surfaces was etched or darkened in the test procedure. The lubrication requirements, with reference only to the load carrying or extreme-pressure properties of the lubricant, of both spiral-bevel and hypoid rear-axle gears, were stated as being determined by: (1) The specific design and precision in manufacturing of the gear set; (2) the rigidity of the mounting and axle housing, and (3) the driving conditions under which the car is operated in service. Mr. Wolf groups the commercial rear-axle gear lubricants available at the present time, with respect to load-carrying ability in four general classes as follows: hypoid lubricant, lead soap plus active sulfur; mild hypoid lubricant, lead soap plus inactive sulfur and active chlorine; mild E.P. lubricant; sulfur-saponifiable, sulfur-chloride, scholine, phosphate type; and gear lubricant, straight mineral oil. The uses of the various types are described and their advantages and disadvantages. In his discussion of the properties of extreme-pressure lubricants Mr. Wolf states that load-carrying is obviously the most important. Stability was rated as probably the second most important property. Extreme-pressure lubricants, particularly the powerful type, are in general not as stable as the refined straight mineral gear oils, he states in his discussion.

Vanadium Steels for the Oil Industry

By JEROME STRAUSS and A. W. DEMMLER

Vanadium Corp. of America

JEROME STRAUSS

A. W. DEMMLER

The authors present briefly the characteristics of vanadium steels used in, or available for use in the oil industry, giving data on chemical and physical properties. They indicate that the uniformity of these steels and their contribution to useful strength and ability to withstand abuse warrant their greater utilization. Applications of various vanadium alloy steels to the various types of oil field equipment are given.

In discussing the use of vanadium in drill pipe the authors state that the uniform and small grain size resulting from its use, which in turn is reflected in the ability to secure improved resistance to repeated stresses and to suddenly applied stresses, are advantageous in extreme service of this character. A brief summary of the steels used in refinery service is given. In the absence of corrosion and too high or too low temperatures, they state that plain carbon steels are satisfactory. Aside from severe corrosion (which may enforce high-alloy-content metals not always in the class of steels) as pressure and temperature are increased or temperature is dropped much below 0° F., low-alloy additions must be resorted to; chromium-vanadium and manganese-vanadium steels both being applicable to these conditions. Under the chromium-vanadium classification, both S.A.E. 6,115 and 6,125 steels are recommended.

Describing the application of alloy metals in high-pressure vessels they state the following steels are produced from vanadium alloys for this use; some carbon-vanadium, some chromium-vanadium, and a few chromium-molybdenum-vanadium steels. The use of these steels is dictated in part by their properties at room temperature after simple heat treatments; in smaller part by their properties at elevated temperatures; and in a large part by the advantages offered in reduction of steel-making difficulties, improved response to heat treatment, and other fabricating qualities of great importance in the manipulation of large masses of steel.

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Influence of Automobile Design on the Use of Natural Gasoline

By C. C. MOORE, JR., and ROBERT I. STIRTON
Union Oil Co. of California*

The final arbiter of acceptable quality in gasoline is the driver of the automobile. When he pulls up at the service station and says, "Give me 10 gallons," he is not receptive to a proposition to install a new intake manifold, carburetor, and fuel pump to enable him to use the specified fuel to best advantage. The 10 gallons goes into the car as it stands, and if the car doesn't purr sweetly, his wrath is directed at the gasoline, not the motor designer. Consequently, the gasoline producer must design his product to fit practically all of the cars which may conceivably use it, rather than for even a majority of cars that might derive better performance from a special fuel.

The result of this situation is that the automobile designer holds in his hands the power to direct the destiny of the gasoline industry. This power has recently been recognized, and is now exercised with some discretion and in some measure in cooperation with the technical men of the oil industry. The purpose of this paper is to review some of the effects of this cooperation in relation to the use of natural gasoline in motor fuels.

The advantages of the use of natural gasoline in motor fuel are largely found in the qualities of easy starting, flexibility of operation, rapid warm-up, decreased detonation, and acceleration. In these respects the performance of practically all cars on the road today can be improved markedly by the use of fuels containing larger quantities of natural gasolines. Balanced against these advantages the single major objectionable feature of fuels containing relatively large amounts of natural gasoline is their tendency to cause the phenomenon known as "vapor locking." Essentially, then, the use of increased amounts of natural gasoline in commercial motor fuels is limited only by the tendency of cars to vapor lock on highly volatile fuels. As automotive engineers succeed in producing cars which will not vapor lock with the more volatile fuels, the public will enthusiastically welcome such fuels and, the economic balance remaining at its present position, the gasoline producers will enthusiastically furnish such fuels.

With these points in mind, let us consider what progress the designer has made in the past few years in regulating the tendency of cars to vapor lock, and then consider what the effect of this progress, if any, has been on the volatility of fuels now offered commercially. We will also consider how much more effect such progress could have today, if the limiting volatility were closely approached, and what the prospects along these lines are for the immediate future. After these points are established, we might even attempt to deduce what the present trend in automotive design may lead to in the slightly more distant future.

Let us consider the situation as it existed three years ago. At that time it was necessary to design the gasoline to fit the cars not only of 1933 vintage, but also the cars at least as far back as 1929 and 1930.

One factor of primary importance in deciding whether or not a car will vapor lock is the maximum fuel temperature attained in the gasoline supply system of the car. Bridgeman, White, and Gary[1] conducted an extensive survey in 1932-33 of cars in use at that time, and reported that the following maximum gasoline temperatures were typical of the average car operated at 40 miles per hour on a level road when the atmospheric temperature was 100° F.

Cars of 1930 and older, °F.	130
Cars of 1931, °F.	132
Cars of 1932, °F.	128

Recently, MacCoull and Barber[2] and Barber and Kulason[3] have reported the results of similar measurements on a considerable number of later cars. Their results indicate the following maximum gasoline temperatures to be typical under the same conditions of operation.

Cars of 1934, °F.	136
Cars of 1935, °F.	145
Cars of 1936, °F.	133

On the basis of these data, we can only conclude that there was no improvement as regards maximum fuel-line temperatures in the six-year period. This may probably be entirely attributed to the development of the so-called "streamlined" models with high fenders, inadequate louvers, reduced frontal areas of opening, and the resulting increased under-hood air temperatures. The drop of approximately 10 degrees in fuel system temperature from 1935 to 1936 suggests the possibility of further improvement in the next few years.

Another factor of primary importance in influencing the tendency of a car to vapor lock is the limiting vapor to liquid ratio of the fuel system. By the vapor to liquid ratio tolerance of a fuel system is meant the ratio of the volume of vapor to the volume of liquid which can exist in the fuel supply system without disturbing the delivery of liquid fuel to the carburetor main jet. In other words, the gasoline partially volatilizes in all gasoline engine supply systems so that the fuel actually delivered to the "carburetor float bowl" always consists of a mixture of liquid and vapor. The higher the vapor to liquid ratio limiting tolerance, the more vapor the system can handle without any unfavorable influence on the operating characteristics of the engine. When the limiting tolerance is exceeded and vapor lock occurs, the operation of the engine is impaired or even discontinued.

Let us consider the trend of vapor to liquid tolerance in cars over the same period which we have considered in connection with fuel-line temperatures. There exists considerable variation in this respect from car to car, and as the individual values are of interest, these data are presented in the form of a chart, in Figure 1. The data used in Figure 1 have been taken from the results of

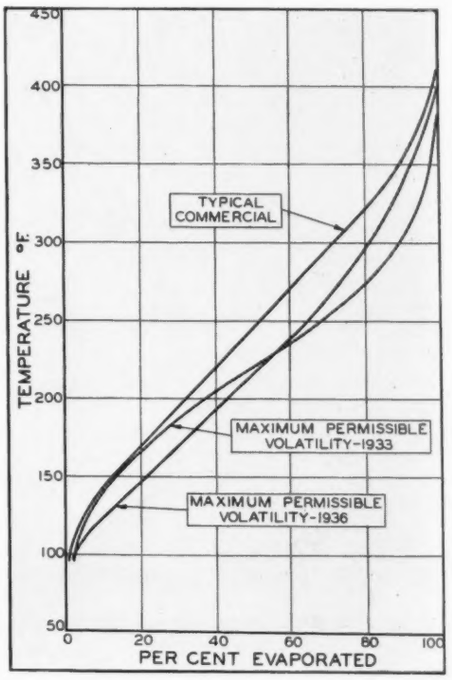

Fig. 2—Comparison of Engler distillation curves of two summer gasolines

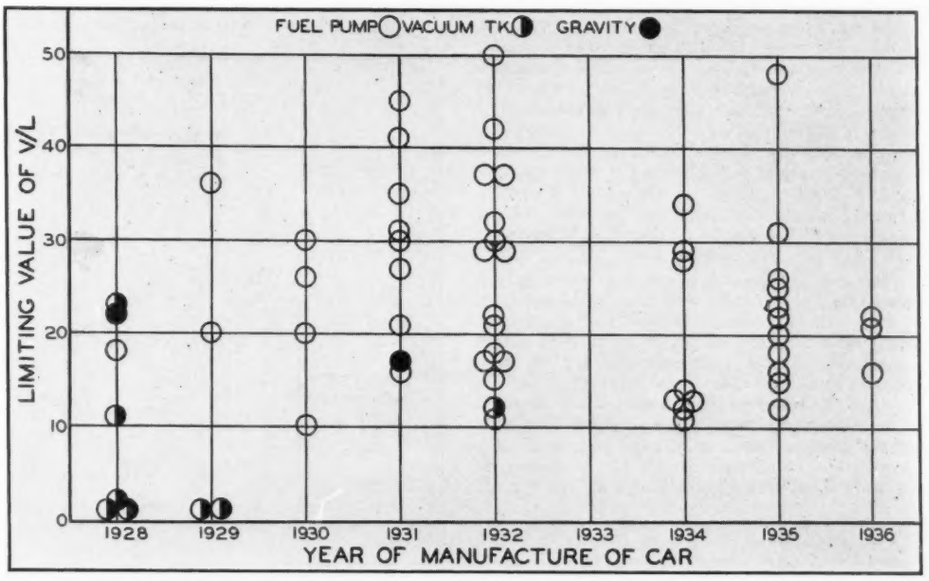

Fig. 1—V/L tolerance of automobile engines at a car speed of 40 miles per hour on level road

*Before fall meeting, California Natural Gasoline Association, at Los Angeles, Calif.

investigations of Bridgeman, White and Gary, and Barber and Kulason.

It will be noted in Figure 1 that the vacuum tank became obsolete with the introduction of the 1930 cars, and the "bad actors" in regard to vapor to liquid tolerance, or, at least, the worst among them, disappeared with the vacuum tank. Beginning with 1930, the worst car tested by the two groups of investigators shows a vapor to liquid tolerance of 10 or more. The cars of 1935 and 1936 show a noticeable grouping around the value of 20 for the vapor to liquid tolerance. It appears from these data that considerable progress has

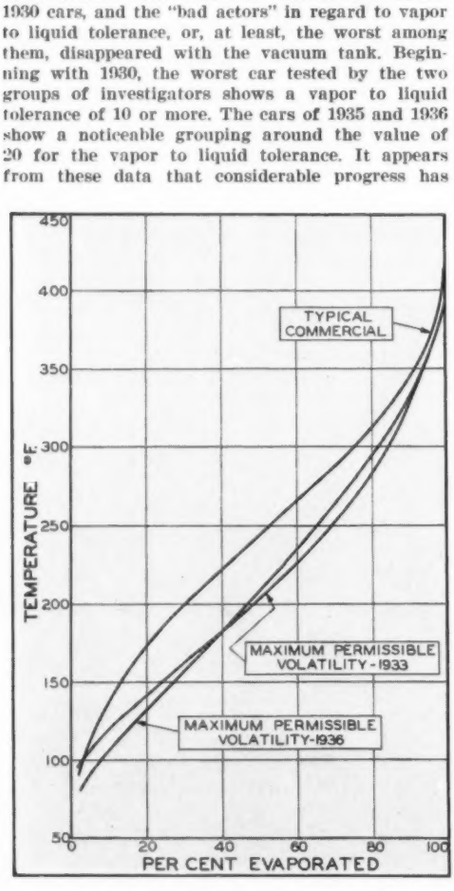

Fig. 3—Engler distillation curves of two winter gasoline blends

been made by the automobile designers in raising the vapor to liquid tolerance limit. The trend seems to be toward a value of 20 for the vapor to liquid tolerance, which, as will be shown later, should be an entirely satisfactory value for all reasonable purposes.

CALCULATING DISTILLATION VALUES

Barber and Kulason[3] have also developed a method by means of which one can calculate the approximate Engler distillation values and Reid vapor pressure which a gasoline must exhibit in order not to cause vapor locking in a given car if the vapor to liquid tolerance and the maximum fuel-line temperatures to be expected under the given climatic conditions are known. Without attempting to justify this method or to explain it in detail, it will be applied to the case of typical cars for which gasoline had to be supplied in 1933 and also to the case of typical cars for which gasoline must be supplied today. In this way it is possible to arrive at specifications for the most volatile gasolines which could be marketed then and now, both for winter and summer use.

The car representative of the worst vapor-locking tendencies which had to be contended with in 1933 will be assumed to have had a vapor to liquid ratio tolerance of zero, and to have shown a maximum fuel-line temperature of 132° F. when operated at an atmospheric temperature of 100° F., and 105° F. fuel-line temperature when operated at an atmospheric temperature of 65° F. The most volatile gasoline which could have been used satisfactorily in the summer in this car, according to the method of Barber and Kulason, would have the following "front end" volatility characteristics:

Reid vapor pressure at 100° F., lbs. per sq. in.	8.0
Temperature at 5 per cent evaporated, °F.	127
Temperature at 10 per cent evaporated, °F.	142
Temperature at 15 per cent evaporated, °F.	155
Temperature at 20 per cent evaporated, °F.	164

The corresponding gasoline for winter use in this car would have the following characteristics:

Reid vapor pressure at 100° F., lbs. per sq. in.	11.75
Temperature at 5 per cent evaporated, °F.	105
Temperature at 10 per cent evaporated, °F.	120
Temperature at 15 per cent evaporated, °F.	132
Temperature at 20 per cent evaporated, °F.	142

For comparison with the typical limiting car of 1933, the typical limiting car in 1936 will be assumed to have a vapor to liquid ratio tolerance of 25 and to show maximum fuel-line temperatures of 135° F. when operating at an atmospheric temperature of 100° F., and of 110° F. when operating at an atmospheric temperature of 65° F.

According to the method of Barber and Kulason, this car will tolerate gasoline of the following volatility characteristics in the summer:

Reid vapor pressure at 100° F., lbs. per sq. in.	10
Temperature at 5 per cent evaporated, °F.	113
Temperature at 10 per cent evaporated, °F.	129
Temperature at 15 per cent evaporated, °F.	141
Temperature at 20 per cent evaporated, °F.	156

The most volatile gasoline satisfactory for winter use in this car would show the following values:

Reid vapor pressure at 100° F., lbs. per sq. in.	15
Temperature at 5 per cent evaporated, °F.	94
Temperature at 10 per cent evaporated, °F.	108
Temperature at 15 per cent evaporated, °F.	119
Temperature at 20 per cent evaporated, °F.	127

For convenience in visualizing the comparisons made above, four gasolines were prepared in the laboratory to meet these volatility specifications. The Engler distillation curves of the two summer gasolines are shown, together with the Engler distillation curve of a typical commercial gasoline actually furnished to the public during the summer season which has just closed, in Figure 2. Figure 3 similarly shows the Engler distillation curves of the two winter gasoline blends.

This far, only the effects of the modifications in engine design on the permissible volatility of gasolines for use in automobiles have been considered. Definite progress has been made in the direction of permissible use of considerably more volatile gasolines. It might be mentioned in passing that the progress noted in this direction is probably a by-product of the use of higher compression pressures in the newer engines. The higher compression pressures have necessitated raising the antiknock quality of the fuels supplied for these engines. One of the most satisfactory methods of increasing the knock rating of a gasoline is to incorporate in it larger quantities of natural gasoline. The result has been that as the octane number requirements of the new automobiles increased, the volatility of marketed fuels has also increased and the automotive engineers have been forced to take steps to decrease the vapor-locking tendency of the cars. As yet, the actual mechanism of these modifications and the effect on the gasoline actually entering the motor has not been considered. This is of some interest, and may well be considered at this time.

The problem concerned in preventing vapor lock is susceptible of two solutions; either the gasoline may be kept cool in the fuel system so that no vapor handling problem arises, or the gasoline may be allowed to become heated and arrangements made to dispose of the vapor formed. While much has been done by the automotive engineers along both of these lines of attack in recent years, all their modifications leading toward lower fuel-line temperatures have been nullified by the art departments. Consequently, all significant progress has been in the direction of increasing the vapor handling capacity. The gasoline reaches the same temperatures in the 1935 and 1936 cars as it did in the cars of 1930 and earlier, and the vapor formed is disposed of in the most simple available manner; namely, by venting to the atmosphere! Consequently, the improvement in vapor-locking characteristics of the later cars has been accomplished at the expense of potential economy. It is an extremely difficult problem to determine experimentally the actual percentage loss of gasoline in this manner in an automobile under actual operating conditions, but it has been estimated by various investigators at from 5 to 20 per cent.

The apparatus shown diagramatically in Figure 4 was set up in the laboratory as an approximation of the fuel system of a modern car. The gasoline is withdrawn from the storage container "A," and is pumped by fuel pump "B" through a primary heater "C," which is simply a copper coil immersed in a hot water bath. From here the heated gasoline flows to a secondary heater or "carburetor float bowl," "D," in which the liquid level is maintained by overflow through the side neck and the vapors are vented at essentially atmospheric pressure and carried off through a vacuum hood. The overflowing liquid gasoline is cooled by passing through an ice-water condenser, "F," and is collected in the receiver, "G."

DESCRIPTION OF TEST

Gasolines were pumped through this system at the rate of 125 milliliters per minute, which corresponds to approximately the rate of flow of gasoline in an automobile running at 40 m.p.h. and consuming gasoline at the rate of 20 miles per gallon. The four gasolines previously described, which had been prepared to meet the "front end" volatility specifications established by the cars on the road in 1933 and 1936, were run through this apparatus at the temperature and with the results shown in Table 1.

These temperatures and conditions are not far removed from those which may be encountered in the automobiles of today, and may be considered to indicate that, if the petroleum industry chose to furnish gasolines as volatile as these cars can handle satisfactorily, the public would only be able to get 80 to 90 cents of its dollar's worth of gasoline into the cylinders. Furthermore, the fuel which actually passed the carburetor in such an engine would differ a great deal from the gasoline purchased. It would have lost in large measure the highly volatile "front end" portions which

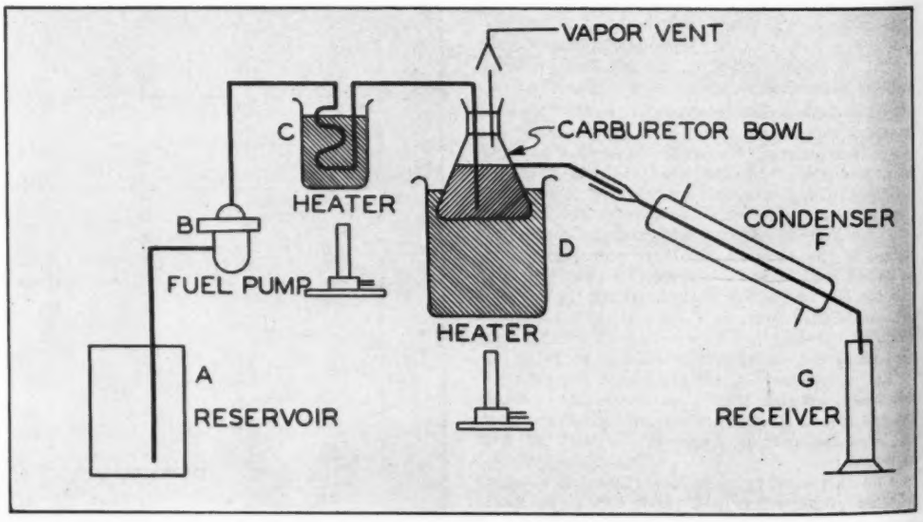

Fig. 4—Laboratory approximation of an automobile fuel supply system

contribute to easy starting, rapid warm-up, decreased detonation, and rapid acceleration. To illustrate the rather startling difference between the original gasoline and the "bottoms" passing the carburetor, Figure 5 has been plotted, showing the Engler distillation curves of the original summer gasolines and the "carburetor bottoms" actually passing the carburetor. As regards the effect of this "topping" process on the knock rating of the "bottoms" passed to the engine, it may be mentioned that the knock rating of the original blend of highly volatile summer 1936 gasoline was 72 octane number. After passing through the laboratory apparatus, the overflowing liquid or "carburetor bottoms" showed a knock rating of 70 octane number. Similarly, the laboratory blend representing permissible winter 1933 gasoline showed a decrease in knock rating from 72.5 to 71.5 octane number. Consideration of these data certainly lead to the conclusion that the customer would suffer appreciable loss in both quantity and quality of gasoline if gasoline producers worked up to the permissible volatility limits. We do not care to present at this time results obtained with this apparatus on commercial gasolines now being marketed. Suffice it to say that the typical gasolines now marketed in this area are not subject to more than half the losses which these highly volatile gasolines show.

TABLE 1

Gasoline—	Temperature of gasoline in "carburetor bowl" °F.	Loss per cent by volume
1933 summer	139	13.7
1936 summer	139	19.2
1933 winter	110	11.2
1936 winter	110	15.0

From the considerations discussed here it seems possible to conclude that a considerable increase in "front end" volatility of gasolines can safely be made by gasoline producers. Such an increase will undoubtedly be accepted by the motoring public without complaint in as much as it will be reflected in easier starting, more rapid warm-up, and increased acceleration. Since it will be to the economic advantage of all gasoline producers to modify their products in this direction, it seems probable that there will be a universal tendency in this direction, and if the process is a gradual one, the decrease in economy will probably not give rise to any extensive complaint from the public.

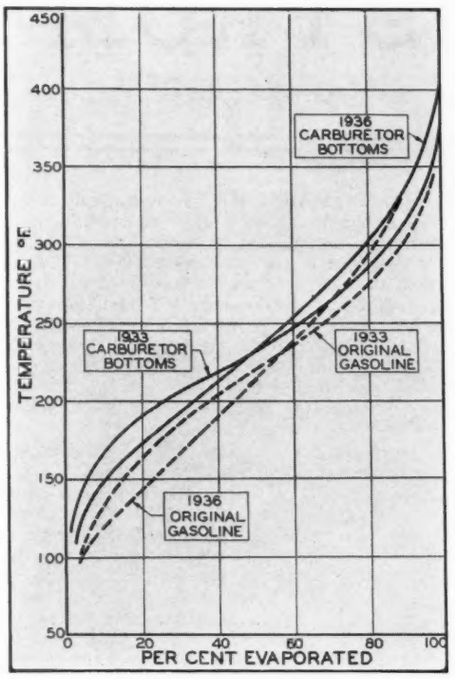

Fig. 5—Effect of vapor loss on Engler distillation curves of laboratory summer gasolines

However, the present trend in sales promotion in the automobile field is apparently toward stressing economy of operation. If this trend continues and if gasoline producers supply more and more volatile fuels to the public, the effect will be to drive the automobile designer to take steps to decrease the temperatures experienced by the gasoline in the fuel systems of the cars of the future.

In conclusion we may sum up these considerations in the following manner:

1. Recent advances in design of automobile fuel systems make it possible for the gasoline producer to market much more volatile gasoline. This will increase the use of natural gasoline in motor fuels in the immediate future.

2. The introduction of such fuels to the market will increase the venting losses in automobiles and tend to direct the efforts of the automobile designer toward increasing economy by decreasing fuel line temperatures.

3. The combination of these trends will tend to increase the percentage of natural gasoline incorporated in motor fuels over a long-time period.

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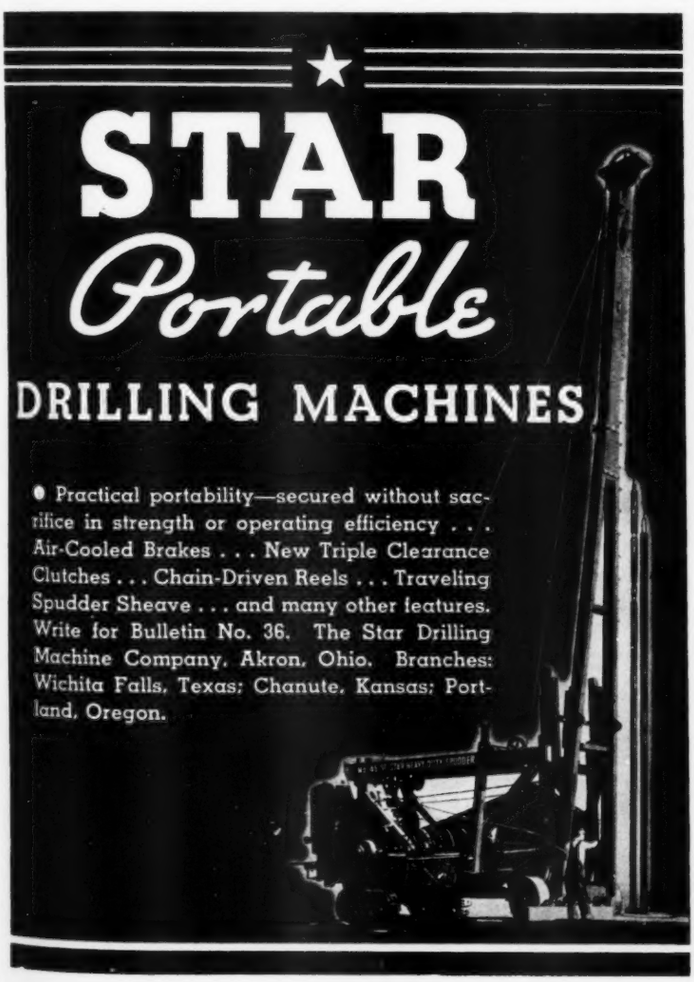
[2]N. MacCoull and E. M. Barber, "Vapor Locking Traits of Cars and Their Limitations on Gasoline Volatility," S.A.E. Journal, 37, 237 (1935).
[3]E. M. Barber and B. A. Kulason, "The Correlation of Car and Fuel Vapor Locking Characteristics," S.A.E. Journal, 39, 351 (1936).

Shreveport Geologists Elect

At the first fall meeting of the Shreveport Geological Society Shapleigh Gray, Texas Co., was elected president for 1936-37; H. K. Shearer of H. L. Hunt, Inc., vice president, and C. R. McKnight, Arkansas-Louisiana Natural Gas Co., secretary-treasurer.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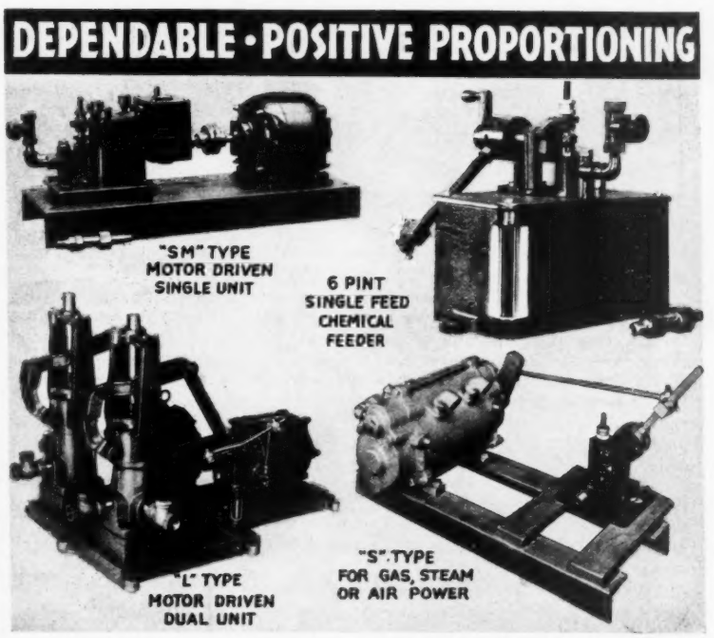
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PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Air or Gas Lift for Oil Wells

Please send me the best and latest engineering method of jetting water out of water wells and oil wells with gas.—J. A. J.

Much has been written on the subject of air and gas lift and we assume you refer to this method of oil production when you mention "jetting." We enclose a bibliography on "Air and Gas Lift" prepared by the Technical Department of the Tulsa Public Library which is a very complete list of articles published on this subject in the trade journals during recent years. In addition to this bibliography we quote the following from consulting engineer, S. F. Shaw's article in "Oil Well Blowing," published by Ingersoll-Rand Co.

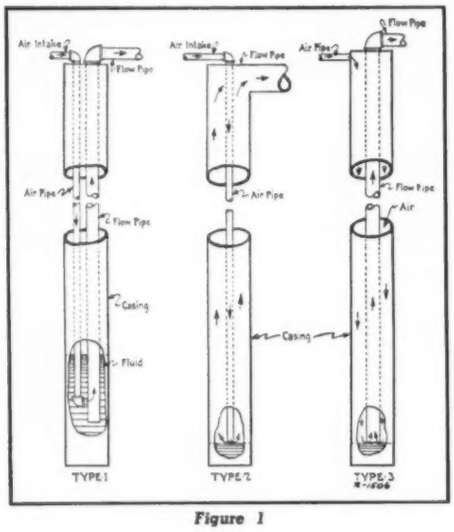

Figure 1

"There are three general types of air lift installations as follows:

"1. Two pipes, side by side, connected near the lower end, the air flowing through one of the pipes to the connection, and the mixed air and liquid rising through the other pipe.

"2. Two pipes, one inserted in the other and the air flowing through the inner pipe to the lower end, the mixture of air and liquid rising in the annular space between the two pipes. This is called the central air lift system.

"3. Two pipes, one inserted in the other, and the air passing through the annular space between the two pipes, the mixture of air and liquid rising in the inside pipe. This is called the Saunders system.

"In the first type, a fluid level is maintained which can be measured. In the second and third types the fluid column is in motion in both pipes and submergence cannot be actually measured, but the level to which the fluid would rise at the instant the air is cut off from the air pipe can be determined by noting the gauge pressure at the top of the well and subtracting from this the friction loss due to the air flowing through the air pipes, thus obtaining the pressure at the bottom of the air pipe. The depth of corresponding submergence expressed in feet can then be determined from this figure of pressure, making allowance for the specific gravity of the particular liquid being lifted.

"The first type of installation permits a higher efficiency to be obtained than any other method. In oil wells, however, the diameter of casing is usually so small that rarely can the required capacity be obtained by having separate lines side by side within the casing. It is difficult, moreover, to lower and raise the two separate lines which are connected at the lower end.

"The second type will cause flow in 'heads' unless the design is very close to being correct. Between heads the pressure will build up until the maximum point is reached, at which time the well will 'head' and the pressure will drop to its minimum point. Between heads there is a continuous discharge of air or gas from the annular space between the casing and the tubing which represents lost energy.

"In the third type as it is usually installed, the well nearly always flows in heads unless the design is nearly correct or unless an excessive quantity of gas is employed. The interval between heads is usually longer than in the second method. The range of pressure is usually greater than in the second type. At the beginning of a head there is often ejected a 'slug' of liquid unmixed with gas which results from displacement of the liquid in the casing by the air or gas. This 'slug' is quickly followed by a mixture of gas and liquid, which is then followed by a longer period of almost pure gas which flows into the tubing from the space between the casing and tubing. This flow of gas continues until the pressure drops to its low point when the incoming liquid rises and closes off the escape of the gas. The waste of energy when flowing by heads in this manner is very great. Flowing in 'heads' serves to build up a much higher pressure than when flowing continuously and thereby establishes temporarily a high back pressure against the sand and probably in some cases retards, to a considerable extent, the flow of the oil toward the well.

"A continuous flow is more efficient than an intermittent flow because of requiring a smaller volume of gas to raise a barrel of oil; it operates under a lower pressure than the maximum pressure reached in intermittent flow, being nearer the lower point than the higher point. The fluid level is lowered to a lower point than the average level when operating by 'heads.' It is very important to lower the fluid level to the point at which the maximum flow toward the well takes place, thereby creating a differential pressure between the sands and the well opening.

"In the oil fields many of the air and gas lifts have been designed by previous experience or by guess, and takes little account of efficiency. If the lift as first installed in a well produces more oil than can be pumped on the beam the designer or operator concludes that it is successful, if it fails the lift is pronounced a failure so far as that particular well is concerned, and yet either of these

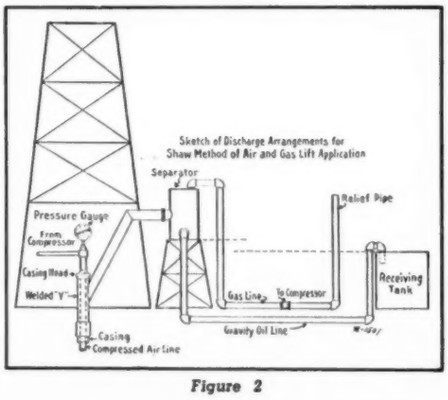

Figure 2

instances may be far from obtaining the results that could be secured by basing the design on a scientific knowledge of air lift principles. Nearly all fields differ amongst themselves in conditions and even in the same field wells will show marked differences. Unless these conditions are properly considered when making a design, there is little likelihood of obtaining efficient results. A design of air lift operating successfully in one field may easily operate unsuccessfully in another field."

The accompanying cuts show typical hook-ups for an air or gas-lift application as suggested by Mr. Shaw giving the essential units of an installation of this type. It should be varied to meet special conditions and designed for most efficient operation and there is now available ample data to permit proper design and installation of air or gas lifts for any well.

Effect of Atmospheric Pressure on Flowing Oil and Gas Wells

Do high and low barometric pressures have any marked effect upon the rate of flow of gas or oil wells? In other words do oil or gas wells produce more during low barometer readings and less when the barometer is high?—O. O.

While your question is quite logical it is very hard to determine just what effect varying barometric pressures would have upon rate of flow of gas or oil wells. In calculations involving the flow of gas wells atmospheric pressure is usually taken at 14.4 pounds per square inch. Theoretically this factor should be varied to coincide with the actual atmospheric pressure at the time the test is made. Practically, it makes but little difference with respect to actual recovery because other variables can have much more influence upon rate of production so it would be very difficult to attribute the actual effect of atmospheric changes to the variations of flowing rates of the well.

A well a mile deep should theoretically be operating at an atmospheric pressure equal to the weight of a column of air 5,280 feet high or a little over 2 pounds. This value should be added to the barometric pressure at the altitude at which the well is drilled. This variation is so small compared with ordinary pressures encountered in flowing wells that it may be neglected in calculations.

Home Study Courses Sponsored by American Petroleum Institute

A young man, an acquaintance of mine, is interested in taking a course in petroleum chemistry. Am I right in assuming this course can be obtained either in person or by correspondence through the American Petroleum Institute? If so, kindly advise me the procedure necessary.—C. E. K.

We do not know of any petroleum chemistry correspondence course sponsored by the American Petroleum Institute but the Institute through the various local chapters does foster a series of special study classes covering subjects allied with the oil industry. In each local field chapter there are many groups of field workers studying special subjects under the direction of competent instructors and using special text books prepared for the Institute.

It is understood these text books can be purchased and will serve for home study and it is our suggestion that you write to the American Petroleum Institute, 1508 Gulf States Building, Dallas, Tex., for the attention of the chairman of the committee on district activities. He can advise you what text books are available and their cost and give you any other information desired.

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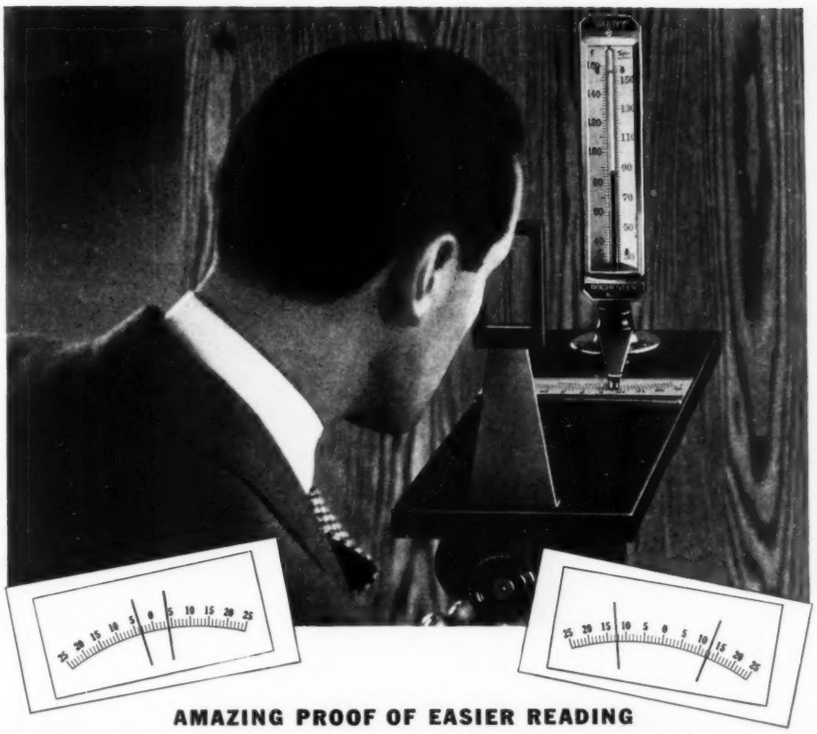

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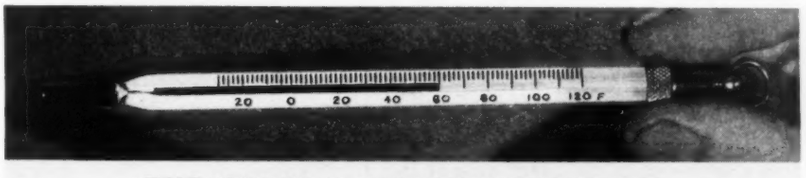

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Varied Uses Made of Ammonia in Refinery Operations

Is the use of ammonia advisable only for chloride corrosion? If there are other forms would you mention them together with the estimated cost?—R. N. F.

Ammonia may be used to neutralize any substance of an acidic character. However, it is not applicable to certain types of operation because the compound produced is not stable, so the objectionable substance, usually sulfur is not actually removed. An example is the treatment during distillation of a crude oil containing a large quantity of sulfur in the form of hydrogen sulfide. Here the ammonia would combine with the sulfide but the resulting compound would tend to dissociate, form hydrogen sulfide, at a low temperature. When treating re-run stock, reflux, or other acid treated product, ammonia may be used to advantage because the products of the reaction are in conventional practice immediately removed by water-washing.

The practice is to make use of ammonia for the removal of hydrochloric acid, produced by conversion from chlorides, magnesium chloride is the ordinary source, by introduction into the vapor area.

It is also used for the treatment of some re-run stocks where sulfur dioxide is present. Any material which has been in contact with acid, or substances of an acidic nature, may be purified by the application of ammonia. One such use is in the solvent extraction methods for the manufacture of lubricating oils.

The cost for the use of ammonia must vary in every refinery with the type of product and the operation. When the ammonia (anhydrous) costs 20 cents a pound, the expense per 1,000 bbls. of oil treated will range from 4 to 32 cents when treating with 1 to 8 pounds.

The control is a pH of 7 to 7.6 for steel tubes and 7 to 7.3 with Admiralty metal. A rapid observation is made by means of a comparator, using Brom-thymol Blue.

Reference: Woodward, Anhydrous Ammonia Used in Refining as Refrigerant, Neutralizer and For Retarding Corrosion, The Oil and Gas Journal, Sept. 13, 1934, page 33.

Operations for Manufacture of Light Colored Petrolatums

We have taken the liberty of asking if you could furnish us with a description of the operations for making light colored petrolatums; i.e., snow white, cream white, etc.?—E. L. C.

Petrolatum is an amorphous wax originally produced as a by-product in the manufacture of lubricating oil and paraffin wax. It is a salve-like residuum from paraffin base petroleum, having a light yellow, amber or brownish color.

The chief source of petrolatum at this time is the "extract" obtained in the manufacture of low pourpoint lubricating oils, especially the bright stocks.

The process is similar in principle to the old cold-settling process, which required long standing of a naphtha-oil mixture at low temperature. This treatment resulted in the petrolatum gradually separating from the oil to collect in the lower part of the tank. The modern method is to dilute the oil with naphtha, approximately two parts naphtha and one part oil, and, if desired, filtered. The solution is then chilled, in some instances to about 50° below zero F., and passed through a bank of centrifuges. The dewaxed oil flows in one stream and the precipitated petrolatum in another. Each contains naphtha, which is recovered by distillation.

The petrolatum residue is then purified by chemical treatment and filtering through fullers earth or charcoal. The chemicals commonly used include sulfuric acid, alcohol, ammonia and sodium hydroxide. The treatments may be repeated when an exceptionally white product is desired. Also, the conditions of filtering and selection of chemicals will depend upon the grade of the petrolatum desired.

A typical yield when filtering a 115° M.P. petrolatum stock, Pennsylvania practice, is shown from Day's Handbook.

(Size of filter, 5 feet diameter by 10 feet high; filtering material, 7,200 pounds fresh, 30-60-mesh bone char; filtering temperature 125° F.)

Charge, gallons	3,300
Yield:	
Snow-white petrolatum, gallons*	281
Lilty-white, petrolatum, gallons	259
Cream-white petrolatum, gallons	212
Extra light amber petrolatum, gallons	537
Light amber, gallons	1,130
Drips, gallons	343
Filtering time, hours	24½

*The white petrolatum, or petrolatum album of the U. S. Pharmacopoeia, defined as a colorless mixture of hydrocarbons, chiefly of the methane series, is obtained by distilling off the lighter and more volatile portions from petrolatum and purifying the residue. A white unctuous mass, of about the consistency of an ointment, transparent in thin layers, completely amorphous, without odor or taste. In other respects white petrolatum has the characteristics of ordinary petrolatum and should respond to the tests given that substance.

References: Day's Handbook of the Petroleum Industry, Vol. 2, page 380. Gruse, Petroleum and Its Products, page 291.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.

SPECIFICATIONS

MINERAL OIL RESIDUES

APPROXIMATE SPECIFICATIONS

Substance, pct.—	Naphthenic soap	Naphthenic acid sludge
Water	4-6	4-6
Ash	14-17	1-3
Mineral oil	34-38	45-50
Naphthenic acid	45-50	45-50
Reaction	Alkali	Acid
Spec. grav. @ 15° C.	1.0	1.0
Acid content		
% as SO_3	.....	6
Acid number	.....	80
NaOH	0.7	.....
Flow point °F.	0	—20

These residues are used as emulsifiers for various compounds, particularly textile oil specialties, cutting oils, paints and varnishes.

References: V. L. Shipp, Naphthenic Acid Industry, The Oil and Gas Journal, March 19, 1936, page 56. C. C. Gray, Petroleum Times, 34, Nos. 866 and 867, 1935.

Compound for Raising Viscosity and Viscosity Index

Will you please give me a description of the compound "Exanol" which is used for increasing the V I of lubricating oils?—L. K.

Studies conducted by the Standard Oil Development Co. were reported by Otto, Miller, Blackwood and Davis before the American Petroleum Institute meeting, Dallas, Tex., November 12-15, 1934. These investigators prepared, by polymerization, high-molecular-weight materials from the light ends of refinery gasoline. These polymers possess the remarkable property of increasing the viscosity indices of lubricating oils when dissolved in them in very small quantities. The name "Exanol" was applied to these materials as a class, not to one specific substance.

Exanol is a clear, colorless liquid, which may range from a low viscosity up to highly viscous polymers. They are pure hydrocarbons, possessing a 2.0 hydrogen-carbon ratio. The effect upon viscosity is shown by the addition of 1.3 per cent to a 93 V.I. oil resulting in an increase to 120 V.I.

The influence of Exanol upon the viscosities and viscosity indices of three types of oils is indicated in the table.

EXANOL INCREASES VISCOSITY INDEX

Base—	Exanol % added	Saybolt viscosity at 100° F.	Saybolt viscosity at 210° F.	V.I.
Coastal distillate	0	358	49.2	26
	0.5	441	54.0	51
	1.5	627	66.0	80
	3.0	1,020	91.5	99
	5.0	1,851	147.5	111
90 V.I. distillate	0	296	51.4	91
	0.5	343	55.4	100
	1.0	418	60.6	106
	2.0	561	73.0	114
	5.0	1,322	136.0	125
Pennsylvania oil	0	237	49	100
	0.5	273	52	106
	1.0	332	58.4	119
	2.0	432	68.6	126
	5.0	1,050	124.0	128

It will be noted that as the concentration of Exanol is increased the viscosity and viscosity index are rapidly improved. The addition of the product does not influence flashpoint, gravity or pourpoint, and has but slight effect on color and carbon residue.

Reference: Otto and others, Improved Motor Oils, American Petroleum Institute Proceedings, fifteenth annual meeting, Sec. III, page 76, 1934.

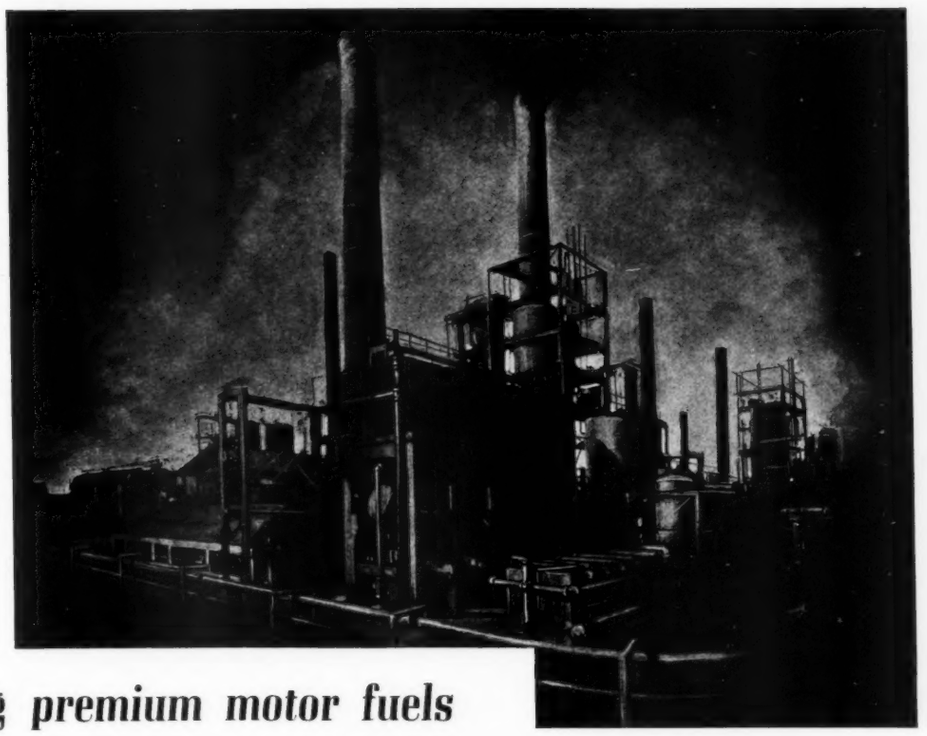
Technical Meaning of the Term Endpoint of Gasoline

What is the strictly technical meaning of "the endpoint of gasoline"?—L. E. L.

The term endpoint refers to a detail of the distillation test. Some years ago this term was used in a way that the exact significance was not always apparent but its meaning has been clearly defined by the American Society for Testing Materials in these words:

"Endpoint—The highest temperature reading observed on the distillation thermometer during the distillation procedure conducted in accordance with the Standard Method of Test for Distillation of Gasoline, etc. . . . of the American Society for Testing Materials." This meaning of the term is now generally accepted in the petroleum industry. The endpoint is the last temperature observation made when making the distillation test; it is also known as the final boiling point.

Reference: A.S.T.M. Standards on Petroleum Products and Lubricants, prepared by Committee D-2, American Society for Testing Materials, 1936, page 358. Tentative Definitions of Terms Relating to Petroleum.



Producing premium motor fuels from low value by-product gases

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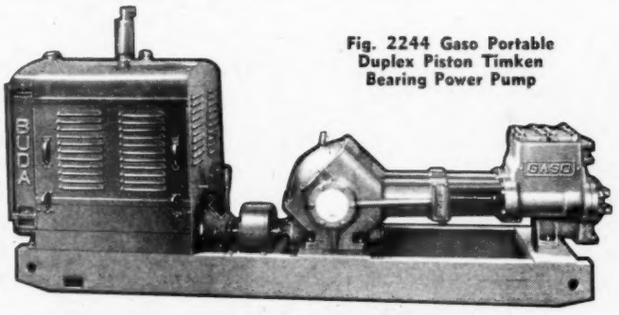

Fig. 2244 Gaso Portable Duplex Piston Timken Bearing Power Pump

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for every oil industry need

FIELD OPERATIONS

Summarizing the Week's Developments

Three new wells in the Hugoton area of Stevens County, Kansas, produced more than 15,000,000 feet of gas, large production for that area. The Hauschild pool in Rice County was extended one-half mile eastward. A pool was opened in Ellis County, and the Clark County wildcat continued to show as a pool opener but was having trouble with a cavy hole. Two big gas wells were completed in the Otis field in Rush County.

OKLAHOMA

The eleventh well was completed on state-owned acreage at Oklahoma City. Production is from Wilcox sand beneath the Capitol, tapped by directional drilling from across the street from the State house. Seven new producers were completed in the Fitts field. A new producer on the Carter County side of the Tussy pool was nearing completion.

ROCKY MOUNTAIN AREA

A deep test in Washington County, eastern Colorado, was abandoned in Schist at 7,005 feet. It is the second dry hole drilled in the recently started campaign of exploration in Colorado. Prospects of a new pool in Moffat County were enhanced by a light-oil showing in a test in section 32-12n-97w. Lea County, New Mexico, added nine oil wells averaging over 600 bbls. per well.

TEXAS

Six new wells in Talco and two in Sulphur Bluff, in northeastern Texas and 43 new oil wells in the East Texas field featured the news from that part of the state. Heavy rains have slowed down the Southwest Texas field temporarily, and little occurred there last week outside of routine oil completions, but a number of wildcats were given up as hopeless. In West Texas a new pool is promised in Gaines County. Ector County, too, appears to have one new pool and an extension in the making. The North Texas area has jumped into the big drilling campaign in Texas and 79 locations were made in that district in the past week. Thus far Southwest Texas and West Texas have done the bulk of the operating, both having far exceeded their record for the first 10½ months in 1935. Positive proof of an oil field in the Lockridge gas field in north central Brazoria County, Texas, and the discovery of a wet-gas field in Jefferson Davis Parish, Louisiana, were the features in the Gulf Coast field.

LOUISIANA-TEXAS-ARKANSAS

Rodessa production keeps climbing, but the steady increase is to be found in the Texas side of the field, as the restrictions on gas-oil ratio in the Louisiana side are such that many wells cannot make nearly their allowable. A meeting of operators with Governor Leche has been called for November 27 to thrash out Rodessa problems. A test swabbing 5 bbls. hourly, 2 miles north of production in the Rodessa field, looks like an extension well. A new producing horizon in Union County, Arkansas, was opened in section 10-17-14, the discovery showing for a 500-bbl. well on a drill stem test.

CALIFORNIA

California producers exceeded 600,000 bbls. production in one day recently, and increased the average for a week to 593,500 bbls. Two good wells in the Midway-Sunset field emphasize the importance of that old reliable oil area as a field for the development of new pools.

MICHIGAN

The recently completed discovery well in Arenac County, Michigan, was drilled deeper to 2,483 feet and increased its production to 1,000 bbls. a day, or an increase of 400 per cent, and it may be drilled still deeper into the Dundee formation.

Completions in All Fields

(Week Ending November 14, 1936)

	Oil	Gas	Dry	Total	1936 total comp. to date	1935 total comp. to date
Penna. Grade Fields	39	14	5	58	3,023	2,650
Lima Field	2	1	0	3	79	83
Central Ohio	1	10	0	11	346	278
Indiana	2	2	5	9	156	178
Illinois	0	0	0	0	26	11
Michigan	2	2	4	8	568	513
Kentucky	0	0	0	0	242	224
Kansas	24	3	7	34	1,434	1,063
Oklahoma	28	3	10	41	2,155	1,759
North Central Texas	20	0	8	28	2,167	2,256
West Texas	34	0	1	35	1,353	717
Texas Panhadle	8	2	0	10	571	623
East Central Texas	9	0	1	10	329	218
East Texas	43	0	3	46	2,196	3,781
East Texas border	4	0	1	5	108	8
Gulf Coast Texas	20	0	5	25	1,030	936
Southwest Texas	38	1	14	53	2,599	1,350
Total Texas	176	3	33	212	10,353	9,889
North Louisiana	3	2	1	6	552	283
Gulf Coast Louisiana	7	0	4	11	322	318
Total Louisiana	10	2	5	17	874	601
Arkansas	1	0	0	1	76	107
Montana	4	7	2	13	210	163
Wyoming	5	0	0	5	91	76
Colorado	0	0	1	1	23	16
New Mexico	9	0	1	10	512	284
Utah	0	0	0	0	5	5
California	21	0	10	31	1,084	963
Total United States	324	47	83	454	21,257	18,863
Total previous week	337	37	107	481		
Difference	17	10	24	7		

Outstanding Fields—Highlights

(Week Ending November 14, 1936)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	4	6	0	0	128	8,487
Hastings	4	5	2	673	108	8,330
Loma Novia	2	5	3	1,760	609	14,925
Seven Sisters	4	5	6	1,900	321	7,640
Saxet Heights	2	9	6	870	194	8,720
Saxet	6	31	7	1,070	268	19,400
Lopez	5	8	5	1,750	228	4,555
East Texas	38	105	43	1,776	21,671	447,347
Talco	15	34	6	1,582	102	8,050
OKLAHOMA						
Oklahoma City	2	11	1	645	1,080	161,075
Fitts	7	62	6	3,712	519	68,100
Burbank-So. Burbank	1	9	0	0	2,153	23,025
KANSAS						
Ellis County	2	19	1	2,020	61	3,065
Reno County	5	21	4	1,808	340	16,180
Russell County	9	52	5	3,569	505	26,677
Rice County	8	52	1	731	615	37,316
NEW MEXICO						
Lea County	12	93	9	5,567	485	78,070
LOUISIANA-TEXAS						
Rodessa, La.	4	20	3	3,532	317	56,210
Rodessa, Tex.	11	59	4	2,163	92	19,175
Gillis, La.	2	3	1	167	49	16,730
Tepetate, La.	3	2	2	239	34	5,497
MICHIGAN						
Porter-Yost	2	13	2	335	412	15,702
Crystal-Montcalm	8	10	0	0	145	3,851

Michigan Field Report

By
PAUL A. ELLIOTT

ARENAC COUNTY DISCOVERY INCREASES TO 1,000 BARRELS

MUSKEGON, Mich., Nov. 16.—Michigan operators were enthusiastic over the prospects for a busy winter when the state's latest wildcat discovery well in Clayton Township, Arenac County, was more than quadrupled in output by deepening, a report of monthly oil production showed the first rise since October, 1935, a small new gas field in Ravenna Township, Muskegon County, was extended with a new well and a small oil field. Dundee Township, Monroe County, also indicated a Trenton extension.

Increase in the McClanahan Oil Co. No. 1 C. W. Seignifous well, SE SW SE section 3-20n-4e, Clayton Township, Arenac County, from 200 to nearly 1,000 bbls. daily from the Dundee formation overshadowed two small new oil completions, two gassers and four dry holes, the comparatively insignificant completion record of the past week.

The Seignifous well, which topped the limestone at 2,455 feet and struck Dundee pay at 2,462 feet, was deepened to 2,483 feet with the resulting increase. It probably will be drilled still deeper as it is the first test on the Ogemaw-Arenac trend to have encountered production so near the top of the formation. Most of the Ogemaw wells have been drilled 150 to 200 feet in the Dundee passing through several streaks of Dundee pay before being treated with acid or shot, tubed and placed on the pump.

Another important feature of the new discovery not being overlooked by McClanahan officials is the fact the new Arenac well showed a considerably greater porosity in the pay sands than wells in the Ogemaw field, the gas-oil ratio being great enough to flow the well.

While it will be impossible to determine accurately the real significance of these factors until after further drilling, they already indicate the Clayton well to be one of the most important discoveries in Michigan since the opening of the Porter Township field, Midland County, still the state's greatest oil-producing area.

May Be Drilled Deeper

Deeper drilling is expected to reveal whether the water table lies 150 to 250 feet below the top of the limestone, as in Ogemaw, and whether there will be several pay stratas, an inviting study for the operators.

W. A. Thomas, geologist for the McClanahan company, indicated the test may be drilled another 100 feet before completion, but he was awaiting the return of W. L. McClanahan, head of the company, from a southern trip before announcing definite plans.

The McClanahan company, which has about 700 acres under lease in the vicinity, and other operators holding checker-boarded leases are expected to move in to start several new tests before winter sets in to seriously handicap operations.

A 4-mile pipe line to railroad loading racks at Prescott, nearby village, was expected to be completed over the week-end. Meantime oil was being moved from two 500-bbl. field storage tanks to the McClanahan refinery at St. Louis, Mich., by tank trucks.

About a mile southeast of the new discovery the McClanahan company had reached a depth of more than 2,200 feet in No. 1 Mee, NE SE SW section 11, Clayton Township, with prospects of reaching the Dundee next week. It was attracting considerable interest as a possible extension along the same general trend.

Not only the new Arenac discovery but also new finds in the northern part of Vernon Township and in Sherman Township, both in Isabella County, as well as the new field in Buckeye Township, Gladwin County, all discoveries of the past four months, have put new life in the industry.

Completions

Midland County contributed the only two new oil wells of the past week, adding 335 bbls. initial production.

The Pure Oil Co. Bond-Root No. 11, C S NW NW section 2-13n-2w, Jasper Township, was the larger, making 200 bbls. after acid treatment in the Dundee drilled to 3,440 feet in proved territory.

The Pure No. 1-E Laura E. Root, C N NW NW section 7-13n-1w, Porter Township, added 135 bbls. after acid at 3,445 feet.

Three other Jasper tests had been drilled into the Dundee pay sands and were being treated or awaiting acid results before completion. The wells and depths to which they had been drilled were: Pure Oil Co. No. 4-B Emma O. Reed, C SW SW section 1, 3,444 feet; Pure No. 5 J. P. Balch, C N SW SW section 2, 3,450 feet, and Pure No. 5-C Bond, C S SE NE section 12, 3,435 feet. Mauman & McCollister No. 1 Rayner, C NE NE section 5, same section, also topped Dundee at 3,494 feet and was reported completing.

The H. E. Bell No. 1 John B. Rayner, SE SW SW section 8, Porter Township, also filled up rapidly with oil and was expected to make a Dundee producer, while the Pure No. 9-A Bond, C N NW SW section 7, also was nearing completion in the Dundee.

Gassers

Larger of the two new gassers of the week was brought in by Gordon Oil Co., No. 2 Mary Dibean, C SW NW section 30-13n-7w, in Millbrook Township, Mecosta County, a test on the north edge of the Tri-Townships field. It gauged 12,000,000 feet daily at 1,314 feet in the Michigan Stray sand.

Three other gas tests in Tri-Townships field were nearing completion in the Michigan Stray sand as follows: Columbia Oil & Gas Co. No. 3 Stebbins, C SE SE section 25-13n-8w, Hinton Township, Mecosta County; Stewart-Atha, Inc., No. 6 Amsden, C SE SW section 31-13n-7w, Millbrook Township, same county, and Wolverine Natural Gas Co. No. 2 Richardson, C NW SE section 3-12n-7w, Belvidere Township, Montcalm County.

A new 900,000-foot gasser was completed in the Berea formation in the new Ravenna Township, Muskegon County field in western Michigan extending the field about a quarter of a mile northwest of the discovery well. It made 500,000 feet naturally before a shot Saturday.

Western Michigan

Rex Oil & Gas Co. brought in the well for West Michigan Consumers Company, operators of an industrial gas line from the old Muskegon field to Muskegon factories, which recently acquired gas rights on about 16,000 acres in Ravenna, Sullivan, Egleston and Moorland townships.

The new well is located on the Gibson lease, C W W NW section 9-9n-14w, a diagonal offset to the Muskegon Development Co. No. 1 Doli Estate, which opened the new West Michigan shallow field. Berea was topped at 1,217 feet with pay to 1,227 feet and total depth 1,238 feet.

Muskegon Development Co. failed to strike oil or gas in the Dundee in the Michigan Oil Exploration Corp. No. 1 Veltman, SW SW NE section 20-9n-16w, Norton Township, Muskegon County, but was drilling into the Monroe over the week-end with formations still running about 40 feet high. Dundee limestone was struck at 2,030 feet and water at 2,043 feet with Monroe expected at about 2,250 feet.

Virgil M. Voorhees, contractor, was moving in for a new wildcat in Sullivan, the Wolverine Natural Gas Co. No. 1 Walker, NW NW NW section 31, about 4 miles south and 4½ miles west of the Lent & Miller Clink, on a block of about 3,000 acres.

Dry Holes

The D. F. Jones No. 1 Doan test, located about 1½ miles east of the discovery well in Buckeye Township, Gladwin County, failed to strike pay more than 90 feet in the Dundee topped at about 3,500 feet. It was located SW NW NW section 33-18n-1e, Hay Township, Gladwin County.

The Stork Oil Co. struck bottom water more than 100 feet in the Dundee after a show at 4,104 feet in the No. 1 Ed Parker, SW SW NE section 25-7n-1w, Ovid Township, Clinton County. It was being abandoned.

McClanahan Oil Co. also failed to find production in No. 1 Cook, NW NW SE section 15-16n-5w, Gilmore Township, Isabella County, striking water at 4,149 feet about 49 feet in the Monroe formation and planning to plug and abandon.

Dragoon Development Co. was reported dry in the Sylvania in No. 1 W. K. Young, SW NW NW section 15-17n-15w, Logan Township, Mason County, a western Michigan test.

Wildcat Developments

The A. V. Oil & Gas Co. No. 1 LaVliet, SW NW SE section 19-6s-6e, Dundee Township, Monroe County, struck oil 46 feet in the Trenton limestone and was to be shot at 2,144 feet a quarter of a mile north of the same company's No. 1 Roe, brought in some months ago and still producing.

Ten other wildcats throughout the state were nearing the Dundee or Traverse with hopes of production.

Montcalm and Saginaw counties shared first honors with three each nearing possible production. In Montcalm, Leslie T. Barber was seeking oil production in Belvidere Township, the state's richest gas field, ready to drill into the Traverse this week in his No. 1 Rice-Garfield, SE SE NE section 20-12n-7w. Jetter Oil Co. was nearing Dundee in a new Bushnell Township test, the No. 1 Arntz, NW SE SE section 1-9n-6w, after a Traverse show, while Daily Crude Oil Co. was nearing Dundee in No. 1 Weatherby, SW SW SE section 20-12n-9w, Winfield Township wildcat.

The Jaenicke Oil Co. had reached a depth of more than 3,150 feet in No. 1 Moulton, SW NW SW section 31-12n-2e, Richland Township, Saginaw County, and was expected in the Dundee soon. C. W. Teater and the Hubbell Oil Production Co. were nearing Dundee in No. 1 Kilbourne and others, NE NE NE section 35-12n-1e, Jonesfield Township, and No. 1 Schwinger, NW NE SW section 5-11n-6e, Frankenmuth Township, both in Saginaw County.

Taggart Brothers, Inc., were ready to test the Dundee over the week-end in No. 1 Waters, NW SW SE section 28-16n-8w, Chippewa Township, Mecosta County, while Fletcher and Leman shut down on top of the Dundee in No. 1 Childers, NE NW NW section 31-24n-1w, Richfield Township, Roscommon County, in the northern part of the Lower Peninsula.

(Continued on Page 78)

California Field Report

By
L. P. STOCKMAN

CALIFORNIA PASSES 600,000 BARREL MARK IN PRODUCTION

LOS ANGELES, Calif., Nov. 16.—Crude oil production in California crossed the 600,000-bbl. mark early in November for the first time since February 15, 1936, and at the present time is averaging a little better than 592,000 bbls. per day. Due to a mutual agreement of operators in the Lake View section of the Midway-Sunset field of Kern County whereby production activities will be suspended during the last 10 days of each month and a general reduction during the latter part of the month in other settled fields when the current allotment has been reached, crude oil production should reach a lower level in the final week of November.

Marketers contemplate an increase in gasoline stocks during the winter season but would like to keep the projected accumulation down to a minimum, as a large surplus overhanging the market would tend to retard recovery. This is of special interest as buyers are looking forward to 1937 in the hope that the progress recorded in the past six months may prevail during the coming year. The strike situation, although it has indirectly affected consumption of gasoline and other refined products, may become an economic factor of importance if prolonged for any considerable period of time.

Intercoastal shipments of refined oil to the Atlantic seaboard during the year to date are substantially lower than during the same time last year and it is probable that total intercoastal liftings for 1936 will be below 1935. Exports of crude and refined oil from California to foreign ports are somewhat lower than in 1935 and this is especially noticeable in the amount of crude oil exported. Exports of fuel oil are also lower than during the same period last year, but exports of gas oil and gasoline as well as kerosene are substantially higher. Indications that California's petroleum industry will regain part of its once active oil trade with the east coast of South America are seen by operators in the lifting of the first cargo of gasoline to go to that area from this coast in a long time. The 80,000-bbl. cargo in question is being taken to La Plata, Argentine, by the Norwegian tanker Vivi. The cargo was loaded at the Union Oil Co.'s terminals at Los Angeles harbor and will be followed in mid-December by a similar load aboard the Vivi's sister ship Vera. For the past several years, gasoline, light oil and fuel markets of Argentine, Brazil and Uruguay, formerly long held by California, have been supplied by Gulf producers and by British and Dutch interests in Venezuela area. Advance commitments in the new situation promise a permanent return of the business to this coast.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

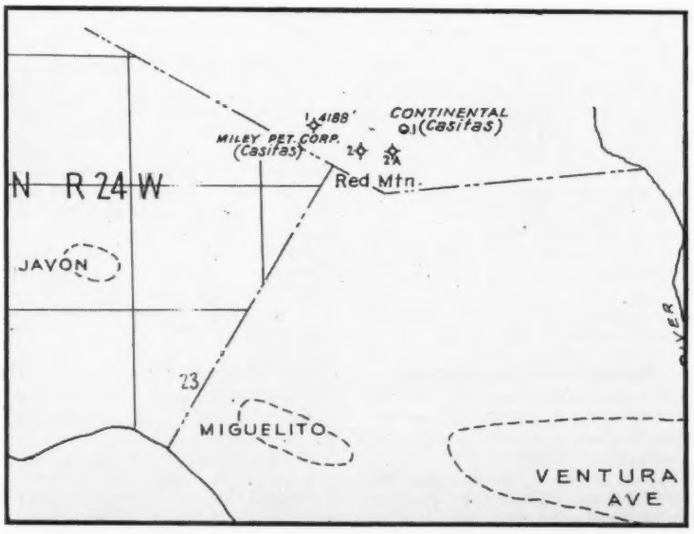
	November 1		October 25			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	151,541	563,629
Gasoline	.....	.....	.....	.....	5,295,506	6,354,000
Kerosene	.....	.....	.....	.....	968,157	823,917
Foreign exports:						
Crude oil	333,262	47,609	96,187	13,741	8,133,453	11,033,606
Fuel oil	285,735	40,819	128,238	18,320	8,699,937	10,477,070
Diesel and gas oil	80,060	11,437	44,889	6,413	4,914,197	3,873,465
Gasoline	5,276	754	72,617	10,374	6,382,466	5,746,268
Kerosene	14,509	2,073	47,143	6,735	1,327,570	1,059,670
Other unfinished oil	.....	.....	.....	.....	155,253	99,847
Coastwise-domestic:						
Crude oil	64,767	9,252	180,230	25,747	6,029,327	5,867,731
Fuel oil	140,104	20,015	174,582	24,940	8,964,283	8,049,836
Diesel and gas oil	5,638	805	38,220	5,460	982,853	1,050,028
Gasoline	246,750	35,250	197,566	28,224	10,533,413	9,560,226
Kerosene	3,548	507	2,111	302	148,964	159,158

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	70,102	10,015	142,472	158,152
Gasoline	.....	.....	.....	.....	285,959	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	.....	.....	.....	.....	327,418	484,597
Lubricants	.....	.....	.....	.....	43,543	57,325
Foreign exports:						
Crude oil	137,959	19,708	.....	.....	2,859,871	2,136,318
Fuel oil	26,980	3,854	17,600	2,514	2,287,096	2,038,656
Diesel and gas oil	114,008	16,287	35,104	5,015	1,727,450	913,679
Gasoline	109,436	15,634	20,193	2,885	3,385,008	2,498,318
Kerosene	.....	.....	10,265	1,466	571,023	627,396
Lubricants	.....	.....	.....	.....	323,140	173,507
Other unfinished oil	.....	.....	.....	.....	90,923	.....
Coastwise-domestic:						
Fuel oil	188,148	26,878	36,108	5,158	5,559,365	5,655,683
Diesel and gas oil	.....	.....	.....	.....	579,776	175,932
Gasoline	115,120	16,446	49,380	7,054	4,390,727	3,638,334
Kerosene	.....	.....	.....	.....	175,284	76,785

Two excellent wells were completed in the Midway-Sunset field of Kern County during the week and it begins to look as if this field will become a more important factor in the state's production of crude oil in 1937. Midway-Sunset, which in reality consists of several productive structures, was long regarded as affording a substantial reserve to operators holding productive acreage in that district. With few exceptions the productive acreage is held in relatively large blocks but deeper drilling and extension work around the edges of the field have revived interest in the field and greatly stimulated drilling operations. As a consequence Midway-Sunset is again leading all fields in the state as far as the drilling of new wells and deep drilling is concerned.

In the Lake View section of the Midway-Sunset field Merritt-Annex Oil Co. No. 2 Fried, in section 25-12-24, was completed flowing 610 bbls. of clean 23.4 gravity oil per day from 2,900 feet and in the Midway section of the field, South Cerritos Oil Co. No. 3 Editor has been completed on the beam pumping 412 bbls. of exceptionally clean 17.7 gravity oil per day from 1,817 feet after the hole had been finished with a 6⅝-inch liner including 165 feet of perforated. In view of the shallow depth at which production is secured, the two new wells will yield an exceptionally satisfactory return. Several additional completions are expected before the close of the year. United Foreign Oil Co., drilling a wildcat in the Panorama Hills area of Kern County approximately 15 miles west of Taft, is drilling ahead in a black sand at 2,201 feet. The company is preparing to install a lighting plant so that it may continue drilling operations 24 hours a day. This well is of particular importance to a large number of residents of San Francisco in as much as the Panorama Oil Co. pioneered the development of the Panorama Hills a number of years ago and San Francisco capital is largely responsible for development work done in the past.



After having discovered the San Miguelito and Padre Canyon (Javon) fields of Ventura County, Continental Oil Co. has moved north and has started a new wildcat in the Casitas section of Red Mountain in Ventura County

Ventura County

The Texas Co. completed No. 131 Shiells in the Shiells Canyon district of Ventura County, flowing 190 bbls. of clean 36.6 gravity oil and 1,075,000 feet of gas per day from 4,213 feet. It blew in flowing 350 bbls. and 1,000,000 feet of gas per day a few months ago when the company was conducting a formation test. The well flowed oil and gas through the formation tester for approximately 90 days and was still flowing approximately 25 bbls. per day when the crew reentered the hole and undertook to complete it in the conventional manner. Drilling operations were resumed at 3,355 feet and the hole carried down to 4,213 feet, at which point a string of 8⅝-inch was cemented. The company then backed up and perforated the 8⅝-inch and recompleted the well with the results as noted above. The initial production of No. 131 Shiells does not represent its maximum potential and consequently it may show a substantially increased production within the next few days unless the company reduces the flow bean as a conservation measure.

Shell Oil Co. completed an excellent well in the Capitan field of Santa Barbara County when No. 19 Covarrubias was brought in flowing 493 bbls. of exceptionally clean 22.4 gravity oil and 36,000 feet of gas per day. This new well was completed in Vaqueros rocks of Miocene age at 1,788 feet and has a 6⅝-inch liner including 90 feet of perforated in the bottom of the hole. Associated Oil Co. is making good footage in No. 1 Edwards, an outpost started early in November. In the Elwood field of Santa Barbara County, Barnsdall

and Rio Grande completed No. 12 Luton Bell, good for 50 bbls. of 34.9 gravity oil per day from 6,000 feet. No. 12 Luton Bell was carried down in order to determine the possibility of developing commercial production in rocks of Eocene age, but drilling operations were suspended at 8,506 feet due to a combination of mechanical trouble and the unsuccessful outlook at that point. The hole was accordingly plugged back to 6,000 feet and casing perforated at 5,393-5,405 feet and at 5,490-5,508 feet. The well is also producing 2,450,000 feet of gas and consequently production of crude oil may increase after the head of gas has been relieved. No. 12 Luton Bell is producing from the Sespe formation, which in this field is characterized by an unusually high gas-oil ratio. This horizon has been known for some time to contain natural gas under high pressure and consequently operators have refrained from developing it. No. 12 Luton Bell, which is flowing through a 10/64-inch choke shows a pressure of 1,860 pounds on tubing and 2,150 pounds on the casing. Signal Oil & Gas Co. has successfully completed No. 8 on tideland permit No. 98 in the Elwood field but is showing a water cut somewhat in excess of expectations. The initial production, 280 bbls. of 32.9 gravity oil from 3,853 feet, is showing a cut varying between 25 and 50 per cent. The well would not flow and was brought in on a compressor. There is a possibility that the production may clean up to some extent although the company's lease is located rather well out on the edge of the structure.

Montebello

The Universal Consolidated and Richfield Oil Co.'s joint well, No. 1-J Nutt in the eastern extension of the Montebello field, has been completed flowing 530 bbls. of relatively clean 38.6 gravity oil and 1,950,000 feet of gas per day from 5,875 feet. This well appears to have a sufficient thickness of oil sand to sustain production for a period of 60 days, but it is quite probable that production will show a substantial reduction before the end of three months. Wells in this area have shown a tendency to register satisfactory initial daily productions and show abnormal declines within a relatively short time. Richfield Oil Co.'s interest in this lease is the result of a compromise whereby Richfield relinquished stock ownership in the Universal Consolidated Oil Co. in consideration of a partition of certain acreage along with certain other covenant. Universal Consolidated No. 2 Pasadena in this field is at the present time pumping 215 bbls. of 38.9 gravity oil cutting 35 per cent per day from 5,679 feet after the hole had been plugged back from 7,471 feet.

Long Beach

In the Long Beach field of Los Angeles Basin, Shell Oil Co. finished No. 43 Alamitos pumping 178 bbls. of 26.7 gravity oil cutting 12 per cent from 4,383 feet after finishing the hole with a 6⅝-inch liner carrying 458 feet of perforated. Wildaw Oil Co. No. 2 Signal in this field proved to be a small pumping well upon completion at 4,300 feet after the hole had been plugged back from 4,910 feet. Initial daily production was 62 bbls. of 23.4 gravity oil and the output showed a cut of 40 per cent. In the Huntington Beach field the Westport Oil Co. completed No. 5 Huntington pumping 501 bbls. of relatively clean 26.9 gravity oil per day. It was bottomed at 3,979 feet and finished with an 8⅝-inch water string landed at 3,790 feet and a 6⅝-inch liner including 193 feet of perforated. Drilling operations and reconditioning work in the Huntington Beach field are showing a consistent increase and present indications are that this work will continue to increase during the next few months. In the Torrance field, Dumas-Lewis Oil Co. has finished No. 2 Redondo pumping 102 bbls. of 16.7 gravity oil daily from 3,635 feet after the hole had been completed with a 4¾-inch liner carrying 350 feet of perforated. Production as has been the case with practically every well finished in this field during the past year is showing a cut approximating 15 per cent.

Wilmington

General Petroleum Corp. has not yet succeeded in making a conclusive pumping test of its No. 1 Terminal in the Wilmington district of Los Angeles but such good progress is being made in cleaning out the hole and rigging up pumping equipment that the much awaited test may be made within another day or two. This well which has already proved up the existence of two commercially productive zones yielding heavy oil testing around 17 degrees may also have uncovered a new zone containing light refining crude oil. On a preliminary production test made recently the well produced a small quantity of 27 gravity oil along with a considerable quantity of mud and water. In addition to cleaning out No. 1 Terminal General Petroleum has spudded in No. 1 Patton and it should reach the first heavy oil zone within another fortnight.

In the Santa Fe Springs field Union Oil Co. completed two new wells and Hathaway Oil Co. recompleted No. 3 Hathaway pumping 48 bbls. of 35.1 gravity oil per day after cleaning out the hole to bottom, 4,462 feet. Although initial production of the Hathaway Oil Co.'s new well is rather small the output is quite clean. Union's two new producers were No. 98 Bell and No. 35 Alexander, the former having been completed pumping 290 bbls. of 33.2 gravity oil daily from 4,050 feet and the latter 104 bbls. of 34.9 gravity oil per day from 4,450 feet. In the Rosecrans field, Santa Rita Oil Co. completed No. 1 Garner pumping 70 bbls. of relatively clean 35.2 gravity oil per day from 3,925 feet. Barnsdall Oil Co. has started preparations to redrill and deepen No. 10 O'Day, originally finished at 4,294 feet. Tentative plans call for completion at approximately 4,800 feet. The Eastern Oil Co.'s wildcat in the Playa Del Rey district, which failed to respond to artificial stimulation after having shown up so good during drilling operations is at present flowing about 200 bbls. of 28.1 gravity oil containing 30 per cent water and mud. In the meantime, Superior Oil Co. is rotating ahead at approximately 8,200 feet but has not yet picked up either the schist or the possibly productive zone found by the Eastern Oil Co.

Fruitvale

In the Fruitvale field of Kern County Western Gulf Oil Co. completed No. 1 Fisher in section 21-29-27, flowing 118 bbls. of 22.3 gravity oil per day from 3,909 feet after finishing the hole with an 8⅝-inch water string landed at 3,855 feet and a 6⅝-inch liner carrying 67 feet of perforated. H. L. Whiston No. 1 Turner registered an initial daily production of 280 bbls. of clean 21.9 gravity oil upon completion at 3,150 feet. Haar & White completed No. 1 Ticehurst pumping 140 bbls. of 22.1 gravity oil per day from 3,396 feet. This well has an 8⅝-inch water string landed and cemented at 3,375 feet and was finished with a 6⅝-inch liner including 29 feet of perforated. Out on the Kern Front section of the Kern River field, Italo Petroleum Corp. finished No. 34 Cauley in section 16-28-27, pumping 110 bbls. of 16.3 gravity oil per day from 2,885 feet. Pan American No. 25 in section 22-28-27, proved to be a small pumper upon completion at 2,325 feet as it was only good for 90 bbls. of 16.4 gravity oil cutting 30 per cent.

Round Mountain

In the Round Mountain field of Kern County, Shell Oil Co. completed No. 1-8 Olcese in section 17-28-29, good for 151 bbls. of 18.1 gravity oil per day from 1,901 feet after it was plugged back from 2,070 feet. Shell is putting the finishing touches on three other potential producers in this field at present and they should be tanking oil within the next week.

In the Mount Poso field, Vanguard Oil Co. No. 6 Baker proved to be an excellent completion, pumping 348 bbls. of clean 16.9 gravity oil per day from 1,790 feet. This well was finished with a 6⅝-inch liner carrying 32 feet of perforated. J. J. Chevalier No. 1 S. P. in section 3-27-28, was only good for 61 bbls. of 15.7 gravity oil upon completion at 1,455 feet. In the Kettleman North Dome field Kenda recompleted No. 47-18-J and returned it to production flowing 3,148 bbls. of 34.8 gravity oil daily.

The Jasmine district of Kern County will probably have another test drilled within 60 days as Doyle Petroleum No. 1 Quinn in section 15-25-27, appears to be good for about 15 bbls. of 14.1 gravity oil per day from 2,882 feet.

In the Lost Hills field Associated has suspended No. 12-A-3 Williamson but is still working on No. 6-L-3 West Coast which has been plugged back from 2,253 feet to 1,949 feet. The Texas Co. is just about ready to quit on No. 1 Theta in section 11-26-20, but is making a last try before abandoning work. None of the wildcats in the Ten Section field of Kern County has yet logged the zone found highly productive by Shell Oil Co. and consequently most of them have taken on a rather dubious outlook.

Completions and Operations in New York-Pennsylvania Gas Field

By J. P. O'DONNELL

COUDERSPORT, Pa., Nov. 14.—Three wells were completed in the New York-Pennsylvania Oriskany-sand gas field in the week in review, two in Pennsylvania and the third in New York.

Pennsylvania Power & Light Co. completed its well on the Oscar Owens farm, Clymer Township, Potter County, at a total depth of 4,194 feet. It gauged 23,000,000 feet with an initial rock pressure of 1,900 pounds. Gas was found at 4,183 feet.

The second Pennsylvania completion was that of the Penn York company on the Fred Plaisted farm, Harrison Township, Potter County, which gauged 550,000 feet. It was completed at 4,906 feet with a rock pressure of 2,050 pounds. The bottom of the sand was at 4,895 feet. This well was shot with 20 quarts at 4,870-78 feet.

The Hanley & Bird well on the Amidon Brothers property in Hornellsville Township, Steuben County, New York, encountered salt water in the Oriskany and was abandoned. The top of the sand was at 4,080 feet and the bottom at 4,112 feet.

Pennsylvania Operations

Sylvania Corp. was cleaning out its well on the I. Kibbee farm in Harrison Township, Potter County. This well gauged 500,000 feet at a total depth of 4,958 feet. It was shot with 60 quarts at 4,930-46 feet, the shot bridging the hole. The bottom of the sand was at 4,948 feet.

The interesting test of the Potter Development Co. on the D. Spetz farm, Pittsfield Township, Warren County, was drilling at 4,995 feet, in the Red Medina formation, topped at 4,961 feet. It will be drilled to the White Medina which is expected to be found about 60 feet deeper.

The McKenry Oil Co. was drilling at 150 feet in its test on the Stellman farm in Rockland Township, Venango County, scheduled as the first deep test in that county. New York, Ohio and Pennsylvania interests have taken up all available land within a radius of 7 or 8 miles of this test but additional development work will doubtless await its outcome.

New York Operations

Two wells were drilling in Allegany County, New York, Cunningham Natural Gas Co. at 3,910 feet on the Thomas Burns farm, Alma Township, and Schrack and others at 3,824 feet on the Downs Estate property, same township. G. L. Cabot, Inc., remains shut down at 4,876 feet on the Patricia O'Donnel farm, in Willing Township. Drilling was suspended on this well six weeks ago when the tools were lost. Hanley & Bird were shut down at 4,621 feet on the William Murphy farm, Alma Township.

Moss Syndicate was drilling at 515 feet on the Thomas E. Moss farm, Howard Township, Steuben County. The Belmont Quadrangle Drilling Co. is moving in on the L. D. Clark farm, Greenwood Township, same county.

Belmont Quadrangle Drilling Co. was casing its well on the Marsh farm, Loon Township, Cattaraugus County, total depth 3,340 feet. The same company had a fishing job on the Ed Berry farm, Hoctor Township, Schuyler County, at 2,340 feet.

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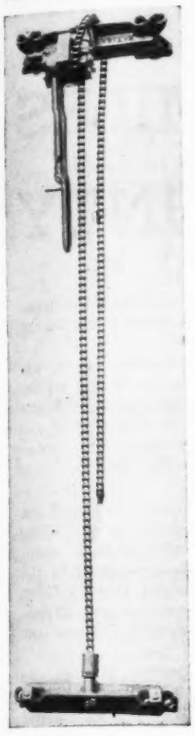

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Among Gulf Coast Drilling Contractors

Ben (Bud) Coyle has abandoned Mike Hogg and others No. 1 State, located in the center of Bayou Teche, at 8,007 feet, and is moving the rig to the Charenton field, where he will drill No. 2 Laws Realty Co. for the same operators. One rig is being used at the discovery well which is being worked over while two other rotaries are located in the Jeanerette field for Herton Oil Co. No. 4 Roane and No. 1 Barrileau. The latter test is bottomed at 6,682 feet and a string of 5¾-inch casing is being cemented preparatory to testing.

Nicklos Drilling Co. is rigged up and ready to spud No. 1 Harang, on the Valentine Prospect in Lafourche Parish, Louisiana, for the Pan American Production Co., which will be drilled to a contract depth of 8,000 feet. In the Tepetate field, for the Continental Oil Co., No. 7-A Homeseekers Development Co. is being tested through perforated casing while the company's No. 2-B Young is drilling below 4,010 feet. Pan American Production Co. No. 2 Garland, at Port Barre, has been completed for a small well and the rig will probably be moved to another location.

Cron & Gracey, who have within the past months confined their activities to the upper Gulf Coast district, are moving in a rig to the Corpus Christi district where they will drill for the Humble Oil & Refining Co. On the Hitchcock Prospect in Galevston County, they are drilling the deepest test ever put down on the Gulf Coast. It is No. 1 Maco Stewart, being drilled for the Shell Petroleum Corp. Preparations are being made to core ahead from a depth of 10,460 feet, where progress of the hole was temporarily halted due to excessive gas pressure. High-pressure connections were installed after the well attempted to blow out. Texas Co. test in the West Columbia field has been completed and two other strings of tools are running for the same company in the Manvel and Amelia district. In the meantime other rigs are located at Roanoke, Iowa and Wharton County for Shell Petroleum Corp. and at St. Martinsville and South Houston for Continental Oil Co. and Stanolind Oil & Gas Co.

Loffland Brothers, who have drilled numerous discovery wells for the Stanolind Oil & Gas Co., marked up another new field for this company when it completed No. 1 Calcasieu National Bank in Jefferson Davis Parish for a wet gasser. The well was scheduled to be drilled to 10,000 feet, but due to mechanical trouble which developed below 9,900 feet the hole was plugged back to 8,659 feet and completed through perforated casing for an initial production of 5 bbls. of distillate per hour through a three-sixteenths inch choke with tubing pressure 3,300 pounds.

Edwards Drilling Co. has completed Humble Oil & Refining Co. and others No. 1 Howard at Cotton Lake field in Chambers County and is preparing to run casing to 8,350 feet, preparatory to testing Coast Petroleum Co. No. 4 Maco Stewart, located in the south extension area of the Dickinson field. The drilling time on this well, including setting two strings of casing, was 19 days. This remarkable time was accomplished by using a new heavy duty rig recently described in this column. Approximately 1 mile from the blowout of Pananton Oil Co. and others test, in Hidalgo County, No. 1 MacDougal is being rigged up for the McCollum Exploration Co.

Stacey Dorn, who has drilled numerous wells in the East Texas and West Texas districts, is preparing to start two wells along the Gulf Coast. One is located in the Jeanerette field in St. Mary Parish on the Eaves tract, while the other is located in the Manvel field. Both wells are being drilled for himself and several associates.

Rutherford Drilling Co. has three rotaries in the Van Vleck field for the Skelly Oil Co. No. 11-B Cobbs is bottomed at 7,246 feet, No. 12-B is drilling in sand at 5,726 feet and No. 13-B Cobb is drilling in shale and lime below 5,234 feet.

Smith & McDannald are moving in a rig to the Conroe field for a test in the north part of the field, recently extended a short distance by Humble Oil & Refining Co. Another rig is being moved to the Rumayor area in Hardin County for Mayo and others. A short extension was marked up for the south extension area of the Dickinson field by the completion of Pan American Production Co. No. 2 Craig, which was completed at a depth of 8,620 feet. Pan American Production Co. No. 6 United Land Co., located at the Sorrento dome, has been abandoned and the rig will be moved to another location. Other rigs are located as follows: One at South Houston for Stanolind Oil & Gas Co., one at Louise for Pure Oil Co., one at Long Lake for Tide Water Oil Co., one at St. Landry Parish for Superior Oil Co., one in St. Martin Parish for Shell Petroleum Corp., one at Hackberry for Superior Oil Producing Co. and one in the Jennings field for Shell Petroleum Corp.

Continental Oil Co. was preparing to make a test of a deeper sand encountered in No. 7-A Homeseekers Development Co., located in the Tepetate field, Acadia Parish, Louisiana. It is bottomed at 8,617 feet and 7-inch casing is being run preparatory to testing sands encountered at 8,396-8,408 feet and 8,509-16 feet. The main producing horizon is found at 8,300 feet. Location is in section 29-7s-2w. Two producers were completed. They are No. 1-B Veronie, completed at 8,307 feet for an initial production of 173 bbls. in 18 hours through a three-sixteenth inch choke and No. 1-B Young in section 29 for an initial production of 139 bbls. per day through a three-sixteenths inch choke from a depth of 8,316 feet.

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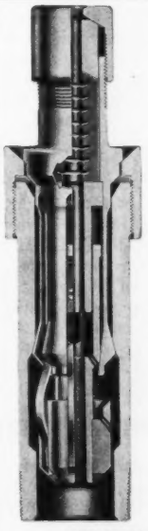

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Eastern Field Report

By STAFF CORRESPONDENT

ORISKANY GAS FIELD 7 MILES WIDE IN KANAWHA COUNTY

PITTSBURGH, Pa., Nov. 16.—An important test in the Oriskany gas field in West Virginia is in the sand and showing for a fair gas well. In Poca district, Kanawha County, the United Carbon Co. is 6 feet in the Oriskany sand, topped at 4,810 feet, in the test on the George W. Facemyer farm and it has a volume of 2,250,000 feet of gas a day. The present depth is 4,816 feet with the top of the sand at 4,810 feet. The well is about 4 miles southwest of the test on the D. A. Griffith farm in the Poca district and 5 miles west of the drilling in Elk district. This extension makes the present Oriskany field 7 miles wide. In the Facemyers test the lime had thickened to 128 feet.

In Elk district, Hays Oil and Gas Co. completed a test on the John Judy heirs farm at a depth of 5,174 feet with the top of the Oriskany sand at 5,142 feet and has a volume of 410,000 feet before shot.

In this district Yoak Oil & Gas Co. made a location for No. 3 Goshorn heirs. Several wells in Elk district are reaching the Oriskany. United Fuel Gas Co. was down 4,834 feet on the C. B. Graham farm; 4,700 feet on the Orth and Walker farm; 3,669 feet on the G. C. Cavender farm and lesser depths on seven other farms. The Columbian Carbon Co. has four wells in the district below the 4,000-foot level. Its test on the Genevieve Minsker farm is drilling at 4,370 feet; on the Everett Copenhaver farm at 4,540 feet; on the Maggie Given farm at 4,470 feet; on the C. W. Vickers farm at 4,020 feet. This company is spudding in a test on the Susan I. Given farm.

Godfrey L. Cabot, Inc., was drilling at 4,945 feet on the R. L. Bibby farm in Elk district. Benedum-Trees Oil Co. is drilling on the Mary J. Slack farm just south of the Wingfield farm. Starcher and others are down 3,220 feet on the G. W. Wolfe farm.

In Loudin district, Godfrey L. Cabot, Inc., had reached a depth of 4,745 feet on the Marmet Coal Co. lease. The West Virginia Gas Corp. was drilling at 2,700 feet on the Campbell and McClintic lease.

In Malden district the Owens-Illinois Glass Co. is shut down in the deep test on the C. Q. Crockett farm at 5,264 feet and bailing water. Godfrey L. Cabot, Inc., had reached 4,772 feet in No. 2 on Plus R. Levi farm; 2,405 feet in No. 9 William Tompkins; 3,570 feet in No. 4 Nellie B. Tompkins, and 1,608 feet on the Campbells Creek Coal Co. farm.

In Poca district the United Carbon Co. was down 5,063 feet on the S. H. Milam farm and within a few feet of the Oriskany sand. On the W. P. Moss farm its depth is 4,715 feet and drilling up the bailer; the test on the L. E. Campbell farm is drilling at 180 feet, and the Ahaz Spencer test is drilling at 1,000 feet. William O. Zeibold on the Avilee Baldwin farm is down 3,500 feet; United Fuel Gas Co. drilling at 3,820 feet on the A. J. Bruen and others lease, and George W. LePeire drilling at 1,225 feet on the J. W. Legg farm.

SOUTHEAST OHIO

No deep tests were completed in southeastern Ohio during the week. In section 25, Wayne Township, Columbiana County, the Natural Gas Co. of West Virginia recovered the tools in the test on the William Grafton farm and should drill in the Oriskany sand during the week. In its test on the Fibegold farm in Madison Township, the tools are drilling in a hard lime, the Corniferous. No hole was made on the Ketchum farm.

In Holmes County, S. J. Bell and others drilled a test on the Roy Conrad farm, Lot 6, Mechanic Township, through the Berea Grit to 817 feet and it was dry.

In Knox County there were four new gas wells. In section 24, Butler Township, Ohio Fuel Gas Co. test on the Ella Wilson farm, in Clinton sand, is good for 5,000,000 feet a day. Same company's well on the Lemard Stricker farm, in Clinton sand, gauges 5,000,000 feet a day. In section 18, Butler Township, this company completed a test on the James Undrewood farm and it is good for 400,000 feet a day from the Clinton sand, and on the David Cornell farm, section 18, Butler Township, has a small gas well in the Clinton sand, gauging 90,000 feet a day.

In Licking County the Pure Oil Co. completed No. 3 Amy F. Nethers in section 17, Hanover Township, in Clinton sand at 3,250 feet and it was good for 50 bbls. initially. In section 15, Perry Township, Rutledge and Mossholder Oil & Gas Co. completed No. 4 William E. Teagarden farm in Berea sand at 633 feet and it produced 12 bbls. the first day after shot.

In Medina County, Curtis & Eaken drilled No. 14 on the Harriet Broadsword farm, Tract 16, Lot 21, Chatham Township, through the Berea Grit to a depth of 400 feet. It was a dry hole.

In Monroe County there was a fair gas well. H. B. Walker & Co. completed a test on the Louisa Shorts farm, section 5, Center Township, in the Lime at 1,490 feet. It gauges 2,000,000 feet a day.

In Muskingum County the Hope Construction & Refining Co. completed No. 3 Almeda Butler in the SE quarter of section 5, Licking Township, in the Clinton sand at a depth of 3,235 feet. It produced 80 bbls. the first day after shot.

In Washington County four wells were completed in Newport Village, section 27, Newport Township: G. T. Gale and others No. 1 G. T. Gale lot, Third Salt sand at 952 feet, 4 bbls. the first day without shot; Alford McKitrick and others No. 1 McKitrick lot, Squaw sand at 1,420 feet, produced 2 bbls. after shot; Charles Fogle and others Pearl Karcher farm, Third Salt sand at 1,018 feet, 2 bbls. the first day without a shot; Hayes Ferguson and others No. 1 Moses Williamson, Third Salt sand at 1,027 feet, 2 bbls. after shot.

SOUTHWEST PENNSYLVANIA

In Greene Township, Greene County, Pennsylvania, Anna L. Garard completed a well on the H. K. Barb farm in Little Dunkard sand, pay at 948-58 feet, showing for 2 bbls. a day.

In Richhill Township, Greene County, John L. Blair completed No. 9 Blair at 2,785 feet. The Fifty-Foot sand was at 2,476-2,511 feet with 42,258 feet of gas showing at 2,480 feet.

In Chartiers Township, Washington County, the Cannonsburg Pottery Co. is drilling on the R. G. Washabaugh farm. In Donegal Township, Cushing Gas Co. is drilling on the J. M. Miller farm. In Peters Township the Carnegie Natural Gas Co. is spudding on the George Douglass farm.

In Amwell Township, Washington County, the Union Gasoline & Oil Corp. is drilling at 2,230 feet on the Martha Hazlett farm. The South Penn Oil Co. is down 765 feet in No. 3 J. Q. Zimmerman. A. V. Lewis and others are fishing at 1,725 feet on the William Mankey farm. Wise Oil & Gas Co. is drilling at 1,240 feet on the C. W. Dunn farm. Bloom & Co. are down 720 feet in No. 3 on the Clyde Hinerman farm.

In South Franklin Township, Washington County, the Carnegie Natural Gas Co. is moving in rigs on the C. T. Dodd farm and the L. B. Dickerson farm. Perrin & Co. is building a rig on the Bohman farm.

In Washington County, Deemston Township, Otto Keys has reached 2,618 feet in a test on the Mordica McCarty farm. The Elizabeth sand was at 2,564-2,570 feet with about 150,000 feet of gas at 2,564 feet. In Somerset Township the Mingo Oil & Gas Co. is down 1,000 feet on the Clark Preston farm.

In Center Township, Greene County, the Penn Ohio Oil & Gas Co. is building rig on the W. L. Funk farm west of the J. W. Milliken farm. Additional wells are expected to be announced in the vicinity of the Scott, Milliken and Harvey farm.

In Dunkard Township, Greene County, Myers, Heskinson & Milliken have completed a rig on the D. L. Headlee farm.

In Springhill Township, Greene County, the North Eastern Oil & Gas Co. is drilling at 2,300 feet on the F. Burley and T. B. Ward lease. Null & Moorhead have reached 1,691 feet on the Hixenbaugh heirs farm. The Equitable Gas Co. is down 2,140 feet in a test on the Dr. A. B. Core farm in Greene Township. The Peoples Natural Gas Co. is drilling at 2,415 feet on the C. H. Lemley farm, Perry Township.

Deep Tests

In the deep test on the Summit Hotel property on Chestnut Ridge, South Union Township, Fayette County, William Snee and others stopped cementing the hole at 4,840 feet and resumed drilling in the new hole and are now at 5,045 feet.

The Phillips-Wittmer test on the Paul Fanker farm, 1 mile north of Zelienople, is drilling at 5,052 feet and has not reached the Lime. Material is being hauled in for a test on the Perry S. Davis farm, 1 mile south of Prospect in Franklin Township. In Slippery Rock Township, Lawrence County, the Carnegie Natural Gas Co. is drilling at 4,552 feet.

WEST VIRGINIA

In Ritchie County, West Virginia, L. S. Samples completed a 1-bbl. well on the L. J. Morris farm in Clay district in the Squaw sand at 1,820 feet.

Gas Wells

In Boone County, O. B. Cunningham and others completed a test on the J. T. Ferrell and others lease in Washington district as a gas well gauging 832,000 feet a day. The total depth was 1,043 feet with the Maxon sand at 1,037 feet and gas at 1,040-43 feet. In Peytona district the Owens-Illinois Glass Co. abandoned their No. 7 on the Broun and Cochran lease as a dry hole.

In Fayette County, Godfrey L. Cabot, Inc., completed No. 8 Kanawha Gauley Coal Co., in Falls district, as a gas well at a depth of 2,669 feet. It gauged 53,000 feet a day.

In Kanawha County the West Virginia Gas Corp. No. 3 C. M. and Lizzie Caldwell farm, Union district, is a gas well gauging 261,000 feet a day. Berea was found at 2,255-70 feet, total depth 3,996 feet.

In Monongalia County the Carnegie Natural Gas Co. No. 1,495 L. D. Boyles, Cass district, is a gas well at 2,413 feet, Injun and Fifty-foot sands, and gauges 92,000 feet a day.

In Ritchie County the Carnegie Natural Gas Co. test on the David Ferrebee heirs farm in Clay district was completed at 1,800 feet. Maxon sand was at 1,724-98 feet with 530,000 feet of gas at 1,780-90 feet.

(Continued on Page 73)

West and North Texas

By
L. E. BREDBERG

NORTH TEXAS FOLLOWS WEST IN BIG HUNT FOR NEW POOLS

FORT WORTH, Tex., Nov. 16.—A new field in Gaines County was opened in the past week and a small oil pool in southern Ector County was given a half-mile western extension. Both wells will call for further development in the two widely separated areas, especially in the Gaines County area which is located on a geophysical high and on which one test, previously drilled, proved only a 12,000,000-foot gasser.

The Amerada Petroleum Corp. and others, interested in the area around Walsh and Adams No. 1 Averitt, which was junked last March after making more than 12,000,000 feet of gas at 4,910 feet, are promising the opening of the second pool for Gaines County, about 3 miles northwest of the town of Seminole. Their No. 1-A Averitt, southwest offset to the junked gasser, logged lime pay at 4,973 feet, with an increase at 5,015 feet, showing 500 feet of oil and over 1,000,000 feet of gas when drill-stem test was made between these two points. It later was swabbed and then shut in to build up pressure, flowing 2½ bbls. per hour when opened for 4 hours, with an increase in gas.

The well was shut in on November 11, building up 1,990 pounds bottom-hole pressure. Total depth is 5,022 feet. It is 660 feet out of the northeast corner of section 228, Block G, W. T. Railway Survey, about 9 miles northwest of a small well completed in the past week in section 22, Block A-21, by the Landreth Production Co., which opened the first producing area in the county. That well, however, is only making 50 bbls. of oil and 15 bbls. of water per day after shooting with 560 quarts and acidizing twice. The pay was topped at 4,538 feet, with bottom of the hole at 4,870 feet, a plugging back job having been resorted to in an effort to shut off bottom-hole water, which was not entirely successful.

Others holding acreage in the vicinity of this new discovery are Magnolia Petroleum Co., Atlantic Refining Co., Humble Oil & Refining Co., Ohio Oil Co. A test can be expected in the near future on some leases lying on the trend between the two discoveries, which may eventually be linked by production. The first discovery apparently is located on the edge of the structure, or the lime merely lacking in porosity in this well.

Ector Extensions

The Goldsmith pool was promised an extension a half mile west by the Gulf Oil Corp. in its No. 9 Goldsmith, located 440 feet from the northwest line of section 22, Block 44, 1s, T.&P. Survey. It recovered 19 feet of good porous lime in coring at 4,107-17 feet and shut down to run and cement 7-inch casing preparatory to testing.

An extension for another pool in the county was listed by the Shell Petroleum Corp. in No. 1 Cowden, located in the southeast corner of section 26, Block 44, 2s, T.&P. Surver, over a half mile west of a small producer in the two-well Harper pool in the southern part of Ector County. It was bottomed at 4,355 feet and shot with 460 quarts of nitrolglycerine from 4,110 feet to the bottom and flowed 242 bbls. in 7½ hours, which makes it appear far better than either of the other two producers in the pool. Due to the fact that this is the first well drilled west of the discovery, which was but a small well brought in by Broderick & Calvert of Ft. Worth, over two years ago, lease owners in this direction from the discovery are expected to start developments on their leases near the new Shell extension, which may prove a pool of considerable size.

The Cowden field was extended by Atlantic Refining Co. and Tide Water Oil Co. No. 1 Holt, in the SW cor. of section 20, Block 43, Township 1n, T.&P. Survey. The well flowed 477 bbls. in 24 hours at total depth of 4,296 feet. It topped the pay at 4,188 feet.

Wildcatting

Several wildcat locations, three of which were extreme wildcats, were staked in the district during the week. Two counties, Jeff Davis and Nolan, in which there are no present drilling activities, are to receive tests.

Four miles southeast of Valentine, on the west side of Jeff Davis County, H. D. Wilcox and others have staked location for No. 1 Jones and Coffield in section 121, Block 4, H.&T.C. Survey. Another extreme wildcat is that of A. H. Main on the Greenlee ranch, in section 40, Block 347, 13 miles northeast of Marfa in Presidio County. Nolan County entered the active list this week when standard tools were being rigged up by Dr. Robinson Co. on the E. Gabler lands in section 26, Block X, T.&P. Survey.

On the extreme west side of Upton County, and east of the McElroy pool in Crane County, Dan Short has staked location for a test on the Webb lands in section 174, Block E, C.C.S.D.&R.G.N.G. Survey. Another wildcat of interest will be that of Moore Brothers on lands of the I.T.I.O. company and McDowell in section 31, Block 34, Township 2s, T.&P. Survey, Glasscock County. This location is in the World pool area in the northern part of the county and near the same owners' deep test completed as a failure last year.

The Southern Oil Corp. has staked location for a wildcat 2½ miles northeast of Rotan in Fisher County on the Robinson lands in Block 2, H.&T.C. Survey. The company has a considerable block in the area.

Fain & McGaha have spudded in a test 1 mile east of the recently opened Guitar pool in eastern Jones County. Same is located on the R. R. Shapard lands in the Robert Smith Survey No. 192 and will seek production from the sand found in the Guitar discovery and Hawley pool.

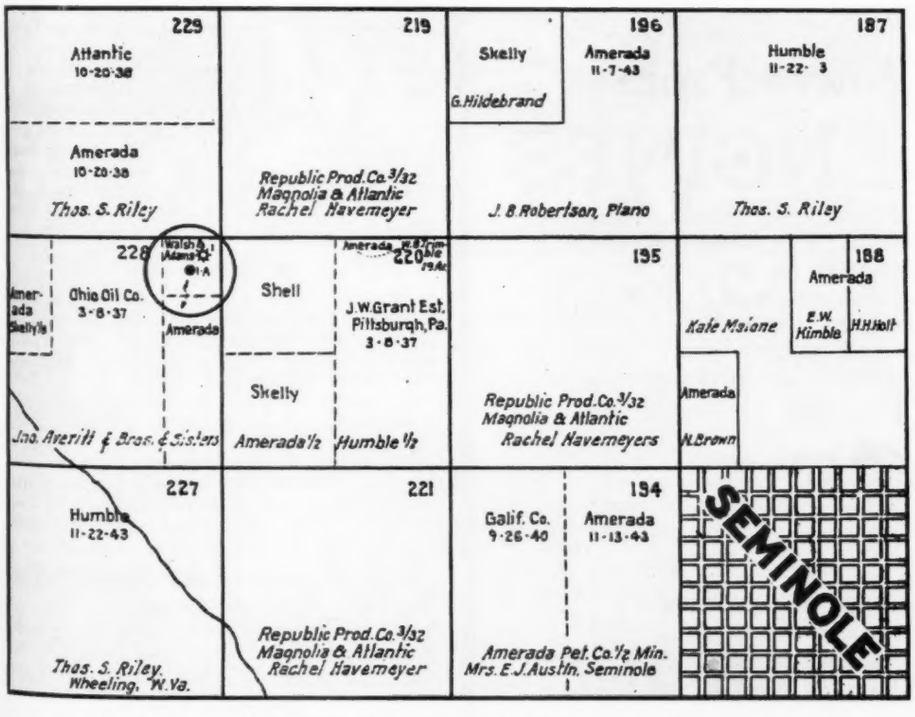
York & Harper No. 1 Slater, located in section 25, Block 45, Township 1s, T.&P. Survey, northwest of the Penn pool, Ector County, appears as a failure after striking sulfur water from 4,545-51 feet with an increase at 4,560 feet, 60 feet below contract depth.

WEST AND NORTH CENTRAL TEXAS

Pitzer & West and the Humble Oil & Refining Co. abandoned their third test for Ordovician production on their block on eastern Shackelford County. No. 3 De LaFosse, located in section 1,549, T.E.&L. Survey, which topped the Ellenberger at 4,380 feet and logged oil at 4,407 feet in the lime and was acidized in an effort to make a commercial producer, was given up as a dry hole at a total depth of 4,410 feet.

The Humble Oil & Refining Co. purchased a half interest in this block over a year ago when No. 1 test on the ranch looked favorable for production from the Ellenberger. However, a premature shot damaged the casing to such an extent that the hole had to be junked. A second test also failed to make a producer, not picking up a comparable showing of oil made in No. 1 and No. 3 tests.

Locations skyrocketed in the North Texas dis-



Location of well in Gaines County which will no doubt open the second producing area for the county, about 9½ miles northwest of a small discovery in section 22, Block A-21.—(Southwest Mapping Co., Fort Worth)

trict this week to a high of 79, which is the greatest number made in several years in the district. At the same time 57 wells were completed, the majority of which were producers, mostly from shallow sands.

W. T. Garrett and others of Dallas made location for a 3,250-foot wildcat test 6 miles north of Caddo in Stephens County. Same will be drilled by cable tools and is located in section 10, S.P.R.R. Survey.

About 1½ miles south of Baird, L. A. Warren and others have staked location for a 1,200-foot wildcat test on the R. L. Griggs farm, in section 121, B.B.B.&C. Survey, Callahan County.

One and a half miles north of Bryson in Jack County, Deep Oil Development Co. and others have staked location for a 3,000-foot test on the Birdwell lands, in the M. Mabin Survey, another wildcat.

A short distance northwest of Jacksboro, in Jack County, Tom B. Medders and others of Wichita Falls, have a block of 2,000 acres out of the Davis and Spotswood and adjacent surveys, on which they plan to drill a 3,500-foot test in the southwest quarter of the Johnson Brothers ranch, William Hodges Survey. Another test is expected to be started in this same area within a short time, L. T. Burns having assembled a block of 2,000 acres adjoining Jacksboro on the southwest. Other tests are planned for blocks taken between the towns of Bryson and Jacksboro, the Continental Oil Co. expected to lead with a test on one of its leases in this stretch.

The Texas Canadian Oil & Development Co. is preparing to drill an Ellenberger test on a block of some 10,000 acres surrounding the town of Greenwood in eastern Wise County, which will be an interesting extreme wildcat.

"Slim" Newburn is coring ahead in his test south of the Anderson & Kerr pool, 3 miles southeast of Gainesville in Cooke County, but it is doomed for failure as water continued to come in at 2,100 feet. It is on the J. N. Winton farm, in the William Campbell Survey. Another abandonment for the area was reported, Cain & Chandler No. 1 J. B. Burch, in the J. McWilliams Survey, just north of Gainesville in Cooke County, having been given up as dry at 2,500 feet.

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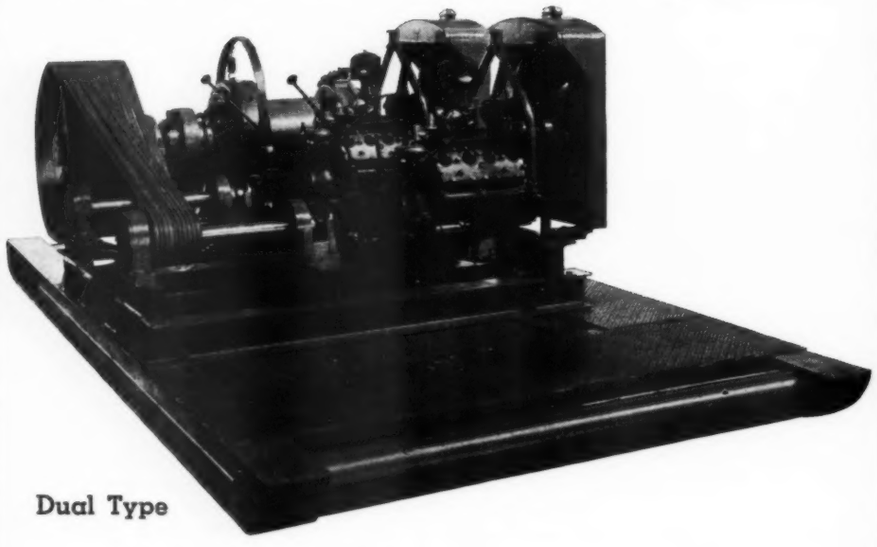

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Panhandle District

There were 10 locations and 10 completions reported for the Panhandle district in the past week. One of the locations was made by Walter Holmes for a test in section 33, Block Z, E.L.R.R. Survey, north of the river in wildcat territory in Hutchinson County. Two dry holes have been drilled in the area, one of them showing for a small producer, however, in 1926.

WEST TEXAS COMPLETIONS

Ector County

Broderick & Calvert No. 1 Johnson, 4,050-4,275 feet, shot, 611 bbls. Tide Water and Atlantic No. 1-C Holt, 4,188-4,296 feet, shot, 477 bbls. Sinclair Prairie Oil Co. No. 2 Smith, 4,094-4,250 feet, shot, 545 bbls. Empire Gas & Fuel Co. No. 1-C Cummins, 4,190-4,293 feet, acidized, 700 bbls.

Gaines County

Landreth Production Co. No. 1 Kirk, 4,538-4,870 feet, shot, 560 quarts, acidized twice, 50 bbls. oil and 15 bbls. water.

Glasscock County

Continental Oil Co. No. 6 Phillips, 2,328-2,510 feet, acidized, 420 bbls.

Howard County

Continental Oil Co. No. 2-A Eason, 2,420-55 feet, acidized, 1,333 bbls.

Loving County

Ninety Two Oil Co. No. 2 Regan-McElvain, 4,218-34 feet, shot, 45 bbls.

Pecos County

Tex-Mex Petroleum Co. No. 4 Netterville, 2,210-2,400 feet, shot, 40 bbls. Stanolind Oil & Gas Co. No. 15-A Tippett, 330-70 feet, 180 bbls. Cardinal Oil Co. No. 1-F Smith, 1,822-32 feet, 9 bbls. per hour.

Upton County

Homestead Oil Co. No. 3 Powell, 2,662-2,732 feet, acidized, 486 bbls. M. D. Bryant No. 2 Robbins, 2,203-22 feet, acidized, 1,031 bbls. Dirks Brothers No. 2 Robbins, 2,214-46 feet, acidized, 903 bbls. Smith and Cravens No. 5 Reese, 2,390-2,407 feet, acidized, 1,029 bbls. Shell Petroleum Corp. No. 33 Bowen, 2,090-2,145 feet, acidized, 835 bbls.

Ward County

Tide Water Oil Co. No. 5 Mason, 2,385-2,505 feet, shot, 275 bbls. Gulf Oil Corp. No. 5 Estes, 2,817-2,940 feet, 1,334 bbls.; No. 6 Estes, 2,507-2,600 feet, shot, 2,933 bbls.; No. 76 O'Brien, 2,630-2,768 feet, shot, 651 bbls. Skelly Oil Co. No. 3 Martin, 2,445-2,533 feet, 1,607 bbls.; No. 2 Hathaway, 2,455-2,580 feet, shot, 3,634 bbls. in 12 hours. California Co. No. 3 Hardage-Wilson, 2,400-2,525 feet, shot, 357 bbls. Richardson Oils, Inc. No. 7 Hathaway, total depth 2,593 feet, 5,213 bbls. Empire Gas & Fuel Co. No. 12 McDonald, 2,315-2,470 feet, shot, 1,339 bbls. Philtop Oil & Gas Co. No. 1 Pure-Smith, dry and abandoned 1,973 feet, elevation 2,556 feet.

Winkler County

Sinclair Prairie Oil Co. No. 7-B Walton, 2,855-2,970 feet, shot, 1,348 bbls.; No. 4-C Walton, 2,855-2,975 feet, shot, 1,301 bbls.; No. 1-C Cummins, 2,770-3,010 feet, shot, 192 bbls. Mid-Continent Petroleum Corp. No. 7 Walton, 2,810-2,960 feet, shot, 1,004 bbls. Siosi Oil Co. No. 3 Lovett, 2,800-3,155 feet, shot, 760 bbls. Crafton and Pure Oil Co. No. 4 Walton, 3,268-3,350 feet, shot, 410 bbls. Magnolia Petroleum Co. No. 13 Walton, 2,837-2,970 feet, shot, 324 bbls. Magnolia Petroleum Co. No. 13 Walton, 2,837-2,970 feet, shot, 324 bbls. Westbrook Oil Corp. No. 11 Hendricks, 2,850-3,096 feet, shot, 662 bbls.; No. 8 Daugherty, 2,845-3,030 feet, shot, 706 bbls.

WEST CENTRAL TEXAS COMPLETIONS

Brown County

Brown and others No. 1 McDonough, dry and abandoned 3,150 feet. A. J. Baker No. 1 Nelson, dry and abandoned, 697 feet.

Comanche County

Roth & Faurot No. 1 McMullen, dry and abandoned, 2,920 feet; No. 2 Sloane, total depth 2,771

(Continued on Page 80)

Oklahoma Operations

By
DAL DALRYMPLE

COMPLETE SEVEN PRODUCERS AT FITTS; NEW CAPITOL WELL

Oklahoma wildcats offered little that was encouraging in the past week, but at the week-end hopes that the deep well near Marlow, in Stephens County, would make a producer were revived when cores showing oil saturation were recovered. The wildcat, Ed Parsons No. 1 Olson, C SW SW section 21-2n-8w, cored from 5,211 feet to 5,233 feet, with oil showing most of the way. In cores from 5,224 to 5,233 feet, 8 feet of well-saturated sand, with a few shale streaks, were recovered. Operators had decided that salt water in the hole came from behind the pipe. Seven-inch casing was set at 5,202 feet.

Sinclair Prairie Oil Co., Power Oil Co. and others No. 1 Lancaster Trust, C SW NE section 10-1s-2e, Murray County wildcat that was looking promising a short time ago, bailed dry and was shut down at 3,002 feet. It was expected to be deepened.

The North Tussy pool continues one of the more active sectors in the state. Skelly Oil Co. No. 1 Miller, NE NW NE section 5-1s-3w, on the Carter County side of the pool, swabbed 100 bbls. of oil in eight hours from sand at 2,615-45 feet; total depth 2,806 feet.

The old reliable Fitts field, Pontotoc County, provided seven new oil wells the past week, with a total initial production of 3,712 bbls. on short-time tests. There were 62 drilling wells in the field, seven rigs and several other locations at which work was just getting under way in this busy field the past week.

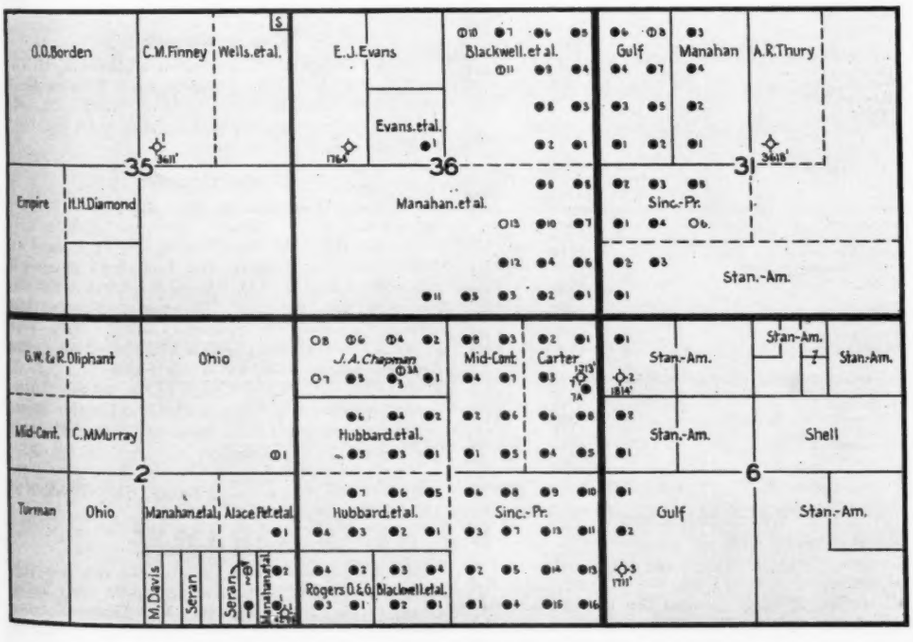
One new producer was completed in the Capitol extension of the Oklahoma City field, it being the No. 11 well on state-owned land, with production coming through a crooked hole from under the state capitol.

Sunray Oil Co., Phillips Petroleum Co. and British American Oil Producing Co., objecting to the 200-bbl. allowable for minimum wells in the Wilcox zone of the Oklahoma City field, have filed petition with the State Corporation Commission seeking a change in the present quota for the smaller producers. The case was set for hearing November 20.

Pontotoc County

Six new producing oil wells were completed in the Fitts field, Pontotoc County. J. E. Crosbie, Inc. No. 2-B D. Harden, NW SW NE section 30-2n-7, topped Hunton lime at 3,421 feet and was bottomed at 3,716 feet. After acidizing with 10,000 gallons, it flowed 833 bbls. of oil through tubing and casing in three and one-half hours.

Other Fitts completions: Sinclair Prairie Oil Co. No. 5 Woolley "B," SE SE SW section 22-2n-7; Hunton, 3,460 feet; total depth, 3,576 feet; acidized; 884 bbls. through tubing and casing in two hours. Same operator's No. 13 Burris, NW cor. section 27; Hunton lime, 3,385 feet; total depth, 3,500 feet; acidized; 692 bbls., casing and tubing, two hours. Magnolia Petroleum Co. No. 23 Metropolitan Life, SW SW SE section 22; Viola lime, 3,965 feet; Bromide, 4,245 feet; total depth, 4,340 feet; acidized; 516 bbls. gross, casing in one hour; potential, 2,416 bbls. Same operator's No. 25 Metropolitan Life, NE NW SW section 27; Hunton lime, 3,227 feet; Sylvan shale, 3,537 feet; total depth, 3,541 feet; acidized; 490 bbls. in two hours, casing and tubing. Simpson-Fell Oil Co. No. 3 Westheimer, SE NW NW section 26; Viola lime, 3,865 feet; Bromide, 4,130 feet; sandy lime, 4,268-73 feet; total depth, 4,278 feet; acidized; 297 bbls. in one hour, nine minutes, casing and tubing; potential, 3,256 bbls. John Mabee, Inc. No. 1 Smith, SW SW NW section 28; an old well, plugged back from 4,280 feet to 4,240 feet; acidized; 40 bbls. per hour, recompleted.



The Olympic pool, one of the busiest areas in Oklahoma, straddles the Hughes-Okfuskee County line. Sections 35 and 36-10-8 and 31-10-9 are n Okfuskee County, and production has been extended in sections to the north. Sections 1 and 2-9-8 and 6-9-9 are in Hughes County, and the field laps over into sections to the south.—(Mid-Continent Map Co., Tulsa)

Only completion in the Jesse pool was Continental Oil Co. No. 3 House, NW NE SE section 12-1n-7. It topped Wilcox sand at 4,714 feet; was bottomed at 4,721 feet; plugged back to 4,718 feet; acidized; flowed 218 bbls. through casing in two hours and died; later flowed 66 bbls. in 24 hours through tubing.

Mid-Tex Petroleum Co. No. 1 Henderson, SW SE NW section 30-5-4, had 1,000 feet of water in the hole at 2,030 feet, total depth; plugged back and was dry and abandoned at 1,980 feet.

Several Tests Started

New work in Pontotoc County: Continental Oil Co. No. 1-A Helm, NW SW SE section 2-1n-7, drilling at 75 feet; same operator's No. 2 Helm, SW SW SE section 2-1n-7, location; Fleetborn Oil Corp. No. 7 Morin, NE SW SE section 20-2-7, location; Stahl Petroleum Co. No. 9 Dennis, SW NW SW section 21-2-7, cellar; E. H. Moore and others No. 1-A Burris, SE NW SE section 22-2-7, cellar; Sinclair Prairie Oil Co. No. 10 Woolley, NE SE SW section 22-2-7, cellar; Simpson-Fell Oil Co. No. 3-A Westheimer, SE NW NW section 26-2-7, drilling at 381 feet; E. H. Moore and others No. 1 G. Smith, NW cor. section 31-2-7, old well, rigging up to plug back; Boettcher Oil & Gas Co. No. 5 Starrett, NE NE SE section 23-4-7, drilling at 800 feet; H. G. Marshall and others No. 1 Malloy, SE NW SW section 30-5-4, rig; Sinclair Prairie Oil Co. No. 11 Ralls, SW NE SW section 28-5-8, location.

Mid-Continent Petroleum Co. No. 1 G. Statler, SE SE SW section 2-1n-7, topped McLish at 4,575 feet, and flowed 455 bbls. of oil in 24 hours while drilling at 4,610 feet. Sunray Oil Co. and others No. 1 Community Fox, SE SE NW SE section 2-1n-7, flowed 385 bbls. through tubing in five hours after acidizing and made potential of 558 bbls., but was not completed. Continental Oil Co. No. 4 Simpson, SE SW NE section 12-1n-7, was bottomed at 4,640 feet and flowed 277 bbls. of oil in 22 hours through casing. J. E. Crosbie, Inc. No. 1-B L. Burris, NE SW SE section 22-2-7, total depth 3,952 feet, was acidized and flowed 681 bbls. through tubing and casing in three and one-half hours. E. H. Moore and others No. 1 Burris, SE NW SE section 22-2-7, total depth 4,420 feet, was acidized and flowed 123 bbls. in one and one-half hours through tubing. Same operators' No. 2-A Moody, NE NW NW section 26-2-7, was bottomed at 3,794 feet and flowed 359 bbls. in one hour through Hydril.

Seminole County

Largest of three new oil wells completed in Seminole County was J. D. Campbell No. 5 Knappenburger, NE cor. section 17-9-7, in the East Seminole area. It flowed 1,570 bbls. in 48 hours from Cromwell sand topped at 3,442 feet; total depth, 3,461 feet. Rogers Oil & Gas Co. No. 1 R. Harjo, SE SE NE section 17-9-7, topped Cromwell sand at 3,451 feet; total depth, 3,459 feet. It flowed 235 bbls. of oil through tubing in 24 hours. Carter Oil Co. No. 1 Wilson, C W half SE SW section 26-11-6, Keokuk area, flowed 112 bbls. of oil in 24 hours through tubing. Top of Misener sand was 4,102 feet; Hunton lime, 4,108 feet; total depth, 4,113 feet.

E. W. Jones and others No. 1 Bond, NW SW SW section 18-6-8, was dry and abandoned at 3,165 feet, total depth. Exchange Drilling Co. No. 1 Mills "B," NW SE SE section 19-9-7, had a hole full of water and was abandoned at 3,463 feet, total depth. Carter Oil Co. and others No. 2 Grisso C-28, NW SE NE section 2-10-6, swabbed and flowed 255 bbls. of oil in 48 hours while cleaning

out, but was drilled and completed as an input well. It topped Misener sand at 4,085 feet; Hunton lime, 4,102 feet; total depth, 4,108 feet.

Continental Oil Co. and others No. 2 Milsey, SE SW SW section 11-7-6, an old well, was deepened from 4,318 feet, topped second Wilcox sand at 4,327 feet and was bottomed at 4,342 feet. It pumped 45 bbls. of oil in 24 hours, recompleted. Carter Oil Co. No. 1 Wrightsman, NW NE NE section 19-9-6, an old well, was deepened from 4,230 feet; topped second Dolomite at 4,255 feet and recompleted at 4,259 feet, total depth. It pumped 22 bbls. of oil and 10 bbls. of water in 24 hours.

First reports of new work in Seminole County: N. Bert Smith Royalty, Inc. No. 1 Mullenssy, NW cor. section 5-7-7, rig; Little River Oil & Gas Co. No. 1 Davis, NE NW SW section 17-8-7, location; Carter Oil Co. and others No. 1 Sanford, NW NW SE section 16-9-6, old well, rigging up to deepen; Pure Oil Co. No. 7 Strothers, SW cor. section 26-9-6, old well deepening, drilling at 4,051 feet; Carter Oil Co. No. 2 F. Block, NW NW NW section 23-10-6, location; Texas Co. No. 2 Grisso, NW cor. section 16-9-7, cellar and pits; Exchange Drilling Co. No. 3 Mills, NE NE SE section 19-9-7, old well, rigging up to deepen.

Amerada Petroleum Corp. and others No. 1 Yarhola, NE NW NW section 36-10-7, wildcat northwest of the Bethel area, flowed 235 bbls. of oil in 24 hours, with 30,000,000 feet of gas, from total depth of 3,638 feet and was shut in. Magnolia Petroleum Co. No. 4 Drewery, NE SE SE section 18-9-7, total depth 3,531 feet; swabbed 45 bbls. in 12 hours after a shot.

Osage County

Completions in Osage County included two new oil wells, one gas well and one water disposal well. Lewis Production Co. No. 15 Mullendore "B," NE NW NW section 21-24-7, Naval Reserve area, topped Bartlesville sand at 2,678 feet; total depth, 2,721 feet. It flowed 125 bbls. of oil naturally in 18 hours; was shot and flowed 258 bbls. in 24 hours. Ohio Osage Oil Co. No. 31 Osage, SE SW SW SW section 9-21-9, was shot with 40 quarts at 273-83 feet, total depth 293 feet, and pumped 20 bbls. in 24 hours. It originally was completed as a repressure well.

Indian Territory Illuminating Oil Co. No. 392 Osage, NE cor. section 29-25-8, an old well, was deepened from 661 feet to 1,894 feet, plugged back to 1,864 feet, acidized and produced 1,250,000 feet of gas. Big lime was topped at 1,849 feet. Peters Petroleum Corp. and Sinclair Prairie Oil Co. No. 13 Osage, SW NE NE section 24-24-7, was completed as a water disposal well at 1,075 feet, total depth.

Pure Oil Co. No. 1 Osage, NE cor. section 19-22-10, an old well, was deepened from old total depth of 1,842 feet in Bartlesville sand to 2,018 feet. It found pay at 2,004-18 feet, flowed 271 bbls. of oil in four hours and daily production was estimated at 1,632 bbls. It was pinched to 200 bbls. and recompleted. Idaho Oil Co. No. 1 Osage, C E half E half SW section 18-22-12, an old well, was deepened from 1,703 feet to 1,835 feet and recompleted. It pumped 4 bbls. of oil in 24 hours.

New work in Osage County was as follows: E. O. Platter No. 12 Osage, SW SW NE section 30-22-9, an old well, rigging up to deepen. Continental Oil Co. No. 3 Osage, old well, preparing to deepen; Lewis Production Co. No. 10 Callahan, NW SE SW section 23-26-6, building rig; Lewis Production Co. and Continental Oil Co. No. 17 Osage, SW cor. section 16-24-7, location; Lewis Production Co. No. 16 Osage, NW cor. section 21-24-7, location; Utilities Production Corp. No. 24 Osage, NW NE SW section 1-27-7, location.

Link Oil Co. No. 8 Osage, SW NE NW section 4-22-12, had Burgess sand at 1,650-66 feet, total depth; swabbed 50 bbls. of oil naturally, and was estimated as a 75-bbl. well after shooting. It was rigging up to pump. Morrison & Alexander No. 6 Osage, NW NE SE section 35-25-11, was estimated as a 15-bbl. well after a shot. It was bottomed at 1,732 feet in sand. Magnolia Petroleum Co. and Empire Oil & Refining Co. No. 3 Bonto, SE SE NW section 23-26-6, South Burbank area, total depth 2,949 feet, swabbed and flowed 300 bbls. in 24 hours and was cleaning out.

Okfuskee County

Six oil wells were completed in the Senora sand producing area of southwestern Okfuskee County. Manahan Oil Co. No. 1 Black, SE NE SE section 25-10-8, had Senora sand at 1,713 feet; total depth, 1,751 feet; shot and flowed 249 bbls. of oil in 16 hours.

Manahan Oil Co. No. 13 Dalton, SE NW SE section 36-10-8, pumped 312 bbls. in 24 hours from sand at 1,735-47 feet, total depth. This well is shown as a location on the accompanying map. Blackwell Oil & Gas Co. No. 9 Dalton, SW NE NE section 36-10-8, flowed 432 bbls. in 24 hours from Senora sand at 1,698 feet; total depth, 1,742 feet. It was shot with 40 quarts. Blackwell Oil & Gas Co. No. 8 Dalton, NW SE NE section 36-10-8, topped sand at 1,716 feet; total depth, 1,749 feet, and after a shot flowed 540 bbls. in 24 hours.

Sinclair Prairie Oil Co. No. 3 Palmer, SE SE NW section 19-10-9, had sand at 1,781-1,833 feet; total depth, 1,836 feet was shot and swabbed 60 bbls. of oil in 24 hours, with one-half bailer of salt water an hour. Ark Royalty Co. No. 3 McIntosh, SE NW NE section 19-10-9, flowed 120 bbls. in 24 hours from sand at 1,753-1,827 feet; total depth, 1,830 feet. It was shot.

Four new operations in Okfuskee County were reported: J. H. Chapman No. 7 Cudjo, NE SW SE section 25-10-8, cellar and pits; Chapman & McFarlin No. 1 McFarlin, SE NW SE section 25-10-8, set 10-inch casing at 38 feet; C. W. James and others No. 1 Morris, NW cor. section 29-10-9, location; A. S. Leach and others No. 1 H. Deer, NE NE NW section 28-10-11, cellar.

J. A. Chapman and Atlantic Refining Co. No. 1 Natchee, NW NW SE section 19-10-9, had Senora sand at 1,727-1,802 feet; total depth, 1,809 feet; it was shot and flowed 90 bbls. in 24 hours but was not completed. Sinclair Prairie Oil Co. No. 1 S. Fisher, NE NE SW section 19-10-9, swabbed 37 bbls. of oil in 24 hours from Senora sand at 1,808 feet, total depth, 1,819 feet.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending November 14, and for the preceding week, was as follows:

	Barrels	
	Nov. 14	Nov. 7
Allen	7,925	7,975
Burbank	7,850	7,750
South Burbank	15,175	15,250
Balance Osage	21,500	21,500
Blackwell district	5,550	5,600
Bristow-Slick	8,100	8,075
Chandler	3,825	3,800
Crescent	9,500	5,025
Cromwell	3,325	3,350
Cushing-Shamrock	10,450	10,500
Duncan district	4,075	4,075
Edmond	15,950	12,275
Fish	6,975	7,650
Fitts	58,100	58,100
Gray	1,425	1,525
Graham	4,775	4,800
Healdton	9,575	9,600
Hewit	4,450	4,450
Holdenville	975	975
Keokuk	4,700	8,725
Konawa	1,850	1,750
Lucien	13,075	13,150
Marshall-Lovell	550	550
Oklahoma City	161,075	116,275
Olympic	9,575	8,025
Papoose	975	975
Polo	2,250	2,225
Sasakwa and townsite	3,425	3,325
Sholem-Alechem	3,325	3,350
Seminole:		
Bowlegs	10,800	10,725
Carr City	4,750	4,475
Earlsboro	6,400	6,525
South Earlsboro	750	775
East Earlsboro	8,875	8,775
Little River	12,000	12,125
East Little River	1,150	1,025
Maud	825	875
Mission	2,425	2,275
Seminole	9,675	9,925
East Seminole	4,425	4,325
Searight	4,300	4,675
Total Seminole	66,375	66,500
St. Louis-Pearson	23,975	23,150
Tatums	3,325	3,350
Tonkawa-Garber-Thomas	5,475	5,475
Wewoka	3,950	3,975
Yale-Jennings	4,125	4,150
Other pools	69,800	69,575
Total Oklahoma	587,325	526,800

Oklahoma County

The eleventh well on state-owned acreage at Oklahoma City was completed at Sunray Oil Co. and Phillips Petroleum Co. No. 11 State, NE NE NW section 27-12-3w, across the street from and west of the capitol. First Wilcox sand was topped at 4,278 feet; second Wilcox sand, 6,419 feet; total depth, 6,500 feet. It flowed 645 bbls. of oil in three hours, making potential of 7,744 bbls. Although the top of the hole is about 220 feet from the capitol, production is coming from under the building, due to directional drilling. Seven whipstocks were set in drilling this crooked hole.

In the Edmond field, Oklahoma County, Ohio Oil Co. No. 3 Dahl, Account 2, flowed 930 bbls. in four hours and made potential of 5,581 bbls. of oil, with 9,250,000 feet of gas. It was shot with 140 quarts. First Wilcox sand zone was topped at 6,585 feet; second sand, 6,662 feet; total depth, 6,705 feet.

New operations in Oklahoma County were reported for the first time as follows: Clark & Co. No. 1 Barcliff, section 23-12-3w, Block 10, Arlington Heights Addition, cellar; Phillips Petroleum Co. No. 2 Gast, NW SW SW NW section 26-12-3w, an old well, plugged back from 6,620 feet to 4,000 feet, set casing at 4,023 feet and was waiting; E. W. Jones No. 1 Hediger, NW NW SE section 6-13-3w, digging cellar and moving in tools; Blackstock Oil Co. No. 3 Tegtmyer, NW NE SE section 36-14-4w, digging cellar; Bernstein and others No. 1 Self, SE NE NE section 25-14-4w, digging cellar and pits.

Pottawatomie County

Magnolia Petroleum Co. No. 7 Brandenburg, SW NW NW section 18-7-5, St. Louis district, Pottawatomie County, topped Wilcox sand at 4,064 feet and was completed at 4,074 feet, total depth. It swabbed 428 bbls. in 19 hours and pumped 150 bbls. in 24 hours.

Magnolia Petroleum Co. No. 1 Billington, NE NW NE section 22-7-4, an old well being deepened, was drilling at 4,117 feet. It was the only new work reported.

Hughes County

Horman Oil Co. No. 1 Meadors, SW SE NW section 27-9-10, South Wetumka area, Hughes County, topped Booch sand at 2,299 feet but was dry and abandoned at 2,345 feet, total depth.

Two new operations in Hughes County were reported: Suppes No. 1 Ferguson, NE SE SW section 9-6-8, was rigging up rotary; Marbett Oil Co. No. 1-A Humming, NW NW SE section 1-7-8, moving in tools.

Olympic Oil Co. No. 1-A Dunn, SE NW SE section 11-7-8, had sand at 1,825-42 feet, total depth, and flowed 35 bbls. of oil, with some salt water, in 24 hours, and pumped 52 bbls. in three and one-half hours, but was not completed. Davon Oil Co. No. 1 Hurley, C N half SE NW section 5-8-10, produced 7,500,000 feet of gas at total depth of 3,152 feet and was connecting up.

Garvin County

Power Oil Co. No. 1-B Federal Land Bank, SE SW SW section 10-4-3, northwestern Garvin County, was dry and abandoned at 2,458½ feet, total depth. It was the only Garvin County completion of the week. No new work was reported in the county.

Creek County

L. B. Jackson No. 5 Burton & Holmes, C NW section 5-18-11, Creek County, had Taneha sand at 1,458-80 feet; Bartlesville sand, 1,766-1,812 feet, with water showing; plugged back to 1,486 feet, and was preparing to shoot.

Carter County

Two small producers were completed in Carter County. F. W. Merrick, Inc. No. 1-A Schermerhorn, SE NW SW section 5-4s-3w, had sand at 522-35 feet; total depth, 558 feet; and pumped 5 bbls. of oil and 5 bbls. of water. Maxine Oil Co. No. 4 Brady, SW SW NE section 5-2s-2w, had lime at 1,600-05 feet; sand, 1,605-07 feet; total depth, 1,705 feet. It pumped 15 bbls. of oil in the first 24 hours. Winkler & McQueen No. 1 J. E. Moore, NW NE NE section 5-1s-3w, in the Carter County sector of the Tussy area, had water showing in broken sand and shale at 3,017 feet, total depth, and was abandoned.

One new operation in Carter County was reported. Louis Sikes No. 4 Eaves, SE NE SE NW section 5-2s-2w, was a derrick.

Tulsa County

Sand Springs Home and others No. 1-A Adkins, SW SE SW section 21-18-13, the only Tulsa County well to be completed, had Lower Dutcher sand at 1,880-92 feet, total depth, and produced 300,000 feet of gas.

Muskogee County

Joe Hardy and associates were moving in ma-

(Continued on Page 81)

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Texas and Louisiana Gulf

By
F. L. SINGLETON

NEW OIL AREA IN BRAZORIA; WET-GAS FIND IN LOUISIANA

HOUSTON, Tex., Nov. 16.—Opening the first oil production in the Lockridge gas field in north central Brazoria County and the discovery of a wet gas field in Coastal Louisiana were the outstanding development along the Gulf Coast the past week.

Gulf Oil Corp. No. 2 Wilkes and Smith, located south of its No. 1 Wilkes & Smith, the discovery of the Lockridge gas field, was washed in from a screen setting made in the Oligocene sand bottomed at 6,368 feet, and flowed an initial gauge of 16 bbls. of oil per hour through a three-sixteenths inch choke. On a 24-hour potential test it flowed 465 bbls. of 26.19-gravity oil through a quarter-inch choke with working pressure 1,850 pounds and shut-in casing pressure 2,500 pounds. Due to the lack of storage the well is now shut in.

The development of this prospect dates back three years when the company drilled its first test on a large block that was taken on the strength of torsion-balance work done in that area in 1929. The structure was rechecked numerous times by other companies resulting in approximately 10 wells being drilled, the majority of which were located to the north and west of the present test. With the exception of the Ramsey prison farm, adjoining the Wilkes & Smith lease, the block is controlled entirely by Gulf Oil Corp. The Ramsey prison farm includes some 1,100 acres and will be offered for lease by the state on November 25.

Preparations were being made to test the important semiwildcat test of Texas Crusaders Oil Co. No. 1 Kubella, a mile west and a little north of the Pickett Ridge field in Wharton County, after sidetracking the hole and redrilling to a depth of 4,705 feet, where a 10-minute drill-stem test showed 40 feet of drilling mud with no oil showing. The operators are running 5-inch casing to test sand from 4,548-79 feet, which last week showed 225 pounds of working pressure and 380 feet of oily mud.

Hitchcock Prospect

Considerable interest is centered on the Hitchcock Prospect, Galveston County, where Shell Petroleum Corp. No. 1 Maco Stewart, in the J. Spillman Survey, has shown considerable gas pressure while coring from 10,456-60 feet, total depth. The operators have installed high-pressure connections, and are washing out a bridge at 10,160 feet, preparatory to coring ahead. To the southwest at the Greens Lake field, Sun Oil Co. has abandoned No. 4 Hughes at 5,005 feet and is moving the rig to No. 5 Hughes, located 933 feet southeast along the northeast line of the survey from the north corner, thence 466 feet southwest at right angles in the W. C. M. Baker Survey.

In the same county, but in the Dickinson field, Pan American Production Co. is preparing to complete No. 2 Craig, in the south extension area in the W. K. Wilson Survey. It is bottomed at 8,620 feet and is being tested through perforated casing at 8,580-92 feet. Adjoining this tract to the south, Sinclair Prairie Oil Co. has made location for No. 1 Wees on a 6.5-acre tract in the W. K. Wilson Survey. To the northwest, Humble Oil & Refining Co. No. 1 Boone was plugged back from a total depth of 8,061 feet to 8,058 feet, and is being tested through perforated casing at 8,045-52 feet.

Cotton Lake

Salt Dome Oil Corp. is moving in material for its third test in the Cotton Lake area, Chambers County. It is No. 1-A Varuna Lawrence, center of a 50-acre lease out of a 333-acre tract, about 3,500 feet northwest of its No. 2 Lawrence in the Solomon Barrow Survey. No. 2 Lawrence was originally completed for an oil well, but it went dead and was finally abandoned when it began to show salt water. This particular area is located about 2½ miles south of the Cotton Lake field. Humble Oil & Refining Co., Gem Oil Co. and Fohs Oil Co. contributed $7,500 dry-hole money for the drilling of this third well.

On the Seabreeze Prospect in the northeastern part of the county, Sun Oil Co. is plugging back from a total depth of 8,335 feet to 8,190 feet preparatory to testing No. 1 Acom, reported to have shown possible sands at about that depth on an electrical coring test. Location is in the T.&N.O. Survey. In the meantime the company's No. 2 White, located to the northeast, is waiting for orders at a depth of 8,869 feet.

At Turtle Bay, in the northwestern part of the county, Sun Oil Co. No. 2 Chambers is bottomed at 6,602 feet with 7-inch casing cemented at 6,575 feet, and is scheduled to be tested this week. It is approximately 1,000 feet northeast of the company's No. 1 Chambers, recently completed for the best producer in the field.

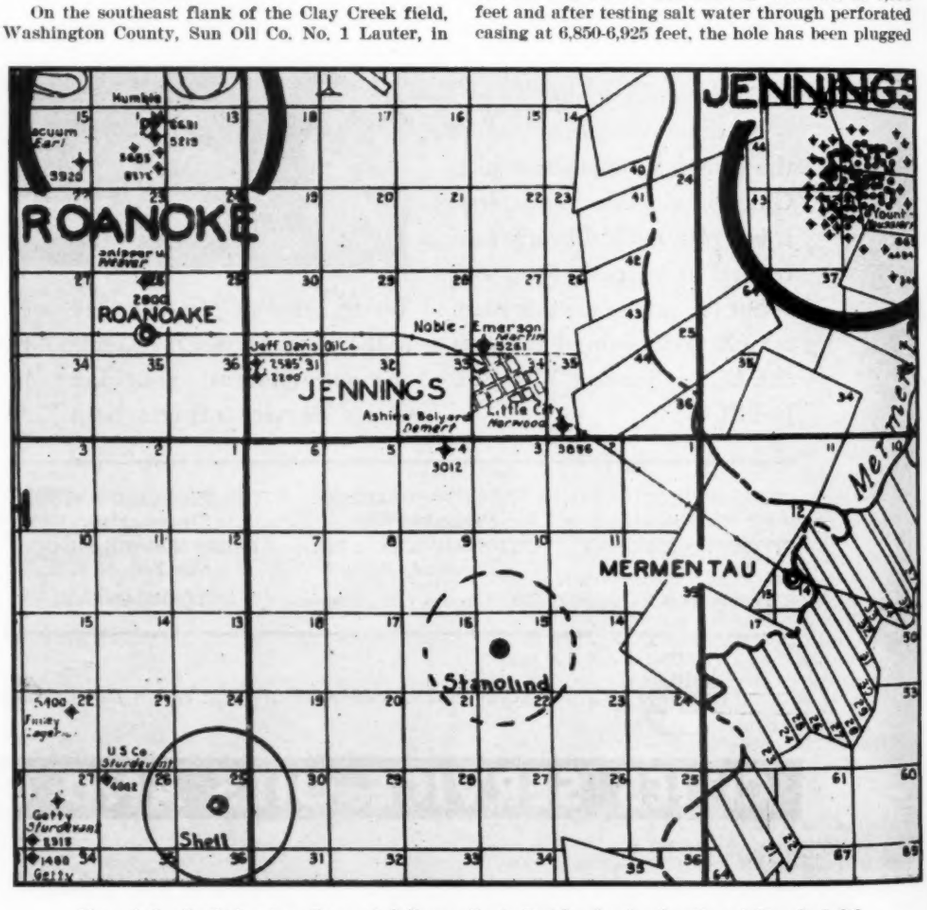
Clay Creek Field

On the southeast flank of the Clay Creek field, Washington County, Sun Oil Co. No. 1 Lauter, in an eight-hour drill-stem test at 7,425-64 feet through a three-eighths inch choke on top and a quarter-inch choke on bottom, recovered 400 feet of oil and 140 feet of wash water with no show of salt water. The gauge recorded no working pressure, but the well had a good gas flow. The hole will be drilled to 7,465 feet, where another drill-stem test will be made.

Operators interested in the South Houston field, Harris County, were watching the outcome of Stanolind Oil & Gas Co. No. 1 Drilling District No. 11, after it showed 12 stands of oil and 40 pounds of pressure on a 10-minute drill-stem test from 3,895-3,917 feet. This is the Miocene sand and the hole will probably be drilled to the Oligocene sand before a test is made. The well is interesting due to the fact that it is in the most southern part of the field which heretofore was though condemned due to a dry hole located 1,000 feet to the east.

Orange Field

Prospect of deep production being opened on the northwest flank of the old Orange field in Orange County was not so bright, as production tests made of J. R. Turnbull No. 1 Lutcher Moore showed salt water. The hole is bottomed at 7,094 feet and after testing salt water through perforated casing at 6,850-6,925 feet, the hole has been plugged



Map of the South Jennings Prospect, Jefferson Davis Parish, showing location of Stanolind Oil & Gas Co. No. 1 Calcasieu National Bank completed last week for a distillate well. Map shows South Roanoke Prospect, to the southwest, where Shell Petroleum Corp. No. 1 Sturdivant has tried to blow out from a depth of 9,749 feet.—(W. W. Zingery, Maps, Houston)

back to 6,800 feet, where another test will be made.

H. C. Cockburn of Houston has turned his acreage at Shepherds Mott in Matagorda County to the Continental Oil Co. and a test is to be started within the near future. Mr. Cockburn is reported to have retained a 50 per cent interest in any production that is developed. Several deep tests have been drilled on this old prospect, and only one has found production. It, however, is not a commercial producer.

Southeast of Westfield, Harris County, Farrel & Cox are moving in material for No. 1 Bender Estate, 150 feet east of the northwest corner of the N. W. Travis Survey. A late 24-hour gauge of Stanolind Oil & Gas Co. No. 1 Candelari, on the Greens Bayou Prospect, shows that it produced 122 bbls. of 48-gravity distillate through a quarter-inch choke and 9,350,000 feet of gas with drill-stem pressure of 2,900 pounds.

After making a favorable showing on a drill-stem test last week, Sun Oil Co. is having difficulty in making No. 1 Long-Mauboules flow naturally. It is an outpost test located in the Nome field, Jefferson County, and is now flowing an estimated 125 bbls. of oil per day through a quarter-inch choke after it had been rocked with gas pressure from the company's No. 2 Blair. The same company's No. 2 Long, reported last week as a gas well, is flowing approximately 29 bbls. of oil per day through a 5/32-inch choke with tubing pressure 1,725 pounds and casing pressure 1,665 pounds. Shell Petroleum Corp. No. 2 Carpenter, located in the M. E. Peveto Survey, is bottomed in shaley sand with streaks of shale showing oil at 6,024 feet and a drill-stem test was being made.

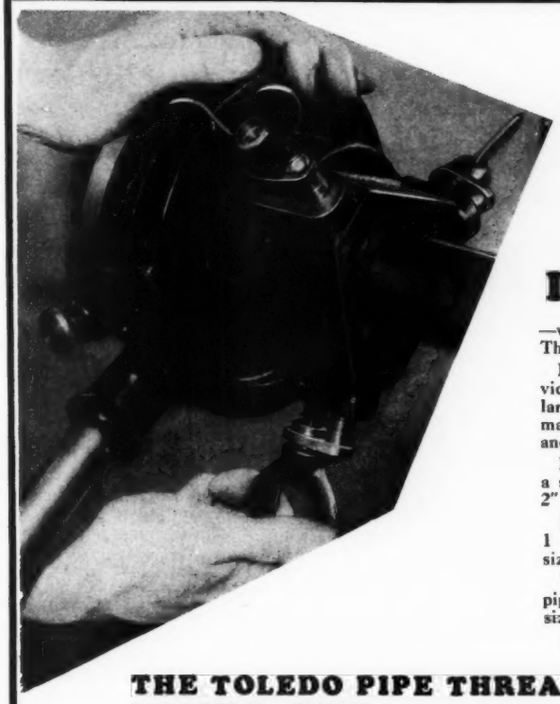
Coastal Louisiana

Another deeply seated geophysical structure in Coastal Louisiana was proven productive when Stanolind Oil & Gas Co. No. 1 Calcasieu National Bank was completed for a wet gasser. It is on the South Jennings Prospect in Jefferson Davis Parish and was completed through perforated casing at 8,639148 feet for an initial production of 4 bbls. of distillate per hour through a three-sixteenths inch choke with tubing pressure 3,300 pounds. It is estimated that it is making 4,000,000 feet of gas daily. This well was scheduled to be drilled to 10,000 feet and reached a depth of 9,944 feet, where high gas pressures resulted in a fishing job. After several attempts had been made to sidetrack the hole and redrill to the contract depth, it was plugged back to a depth of 8,659 feet. Several sands have been encountered below its present depth and further development of this structure is expected to get under way in the near future. This is Stanolind Oil & Gas Co.'s seventh consecutive strike along the Gulf Coast.

While this test was being completed, operators of another deep wildcat, located 5 miles to the northeast, were having trouble in controlling high gas pressure encountered at a depth of 9,749 feet. It is being drilled by the Shell Petroleum Corp. and is located on the South Roanoke Prospect in section 25-10s-4w. A blowout was averted when additional weighting material was pumped into the hole after a leak had been found in the connections. After the well was quieted, the shut-in casing pressure ranged from 1,025 pounds to 1,625 pounds. The operators are preparing to free the stuck drill stem preparatory to running a protection string of casing. Some are of the opinion that these two wells are located on the same structure with the Stanolind well on the north end and the Shell well on the south end.

At the Abbeville Prospect, Vermilion Parish, Continental Oil Co. No. 1 O. C. Hebert is drilling ahead below 10,887 feet after the hole was sidetracked at 10,800-12 feet. Results of an electrical coring test show that three possible oil-bearing sands have been encountered. At 7,890-7,920 feet, 17 ohms and 180 millivolts were recorded. At 9,165-90 feet it showed 18 ohms and 150 millivolts, and at 10,370-10,410 feet, 13 ohms and 175 millivolts. The company is attempting to redrill to 11,732 feet, where the well attempted to blow out after 5 feet of sand was cored from 11,727 feet.

Two miles west of the Charenton discovery well in St. Mary Parish, Mike Hogg and others have abandoned No. 1 State at 8,007 feet. It is located in the center of Bayou Teche and was abandoned after an electrical coring test showed 9 ohms in a hard formation at 7,200-06 feet.



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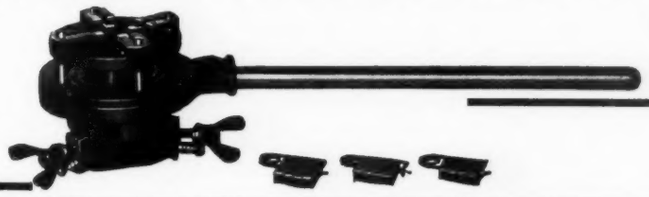

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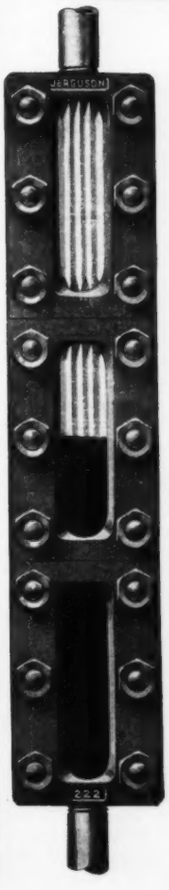

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East and East Central Texas

By L. E. BREDBERG

SIX NEW WELLS IN TALCO AND TWO IN SULPHUR BLUFF AREA

DALLAS, Tex., Nov. 16.—Six more wells were completed in the Talco pool in the past week, two in Franklin County and four in Titus County. Another southeast extension was accorded the field when B. G. Byars and others No. 1 W. T. Edwards, in the J. R. Slaughter Survey, quarter of a mile southeast of the nearest producer, and 1½ miles northwest of a dry hole drilled several months ago, came in flowing through open tubing at a total depth of 4,301 feet. No gauge was taken and it was shut in to erect storage and for pipe line connection before testing.

Eight locations were staked in the field this week on four of which wells are already drilling. Crews are working on the plant site of the Premier Asphalt Co. refinery, which is to be erected on the Cotton Belt Railroad, at Mount Pleasant, and which will operate on crude from the Talco field transported to the refinery by a line to be laid by the Talco Pipe Line Co. Capt. J. F. Lucey, Byrd & Frost and others are interested in the project and also have production in the field.

Owners Organize

Royalty owners and independent operators organized themselves into an association at Talco this week, Claude McDonald, operator and president of the Mount Pleasant Chamber of Commerce, was elected president. R. L. Peveto, one of the members of the firm making the Talco discovery last February, was elected vice president and Felis Jones, Talco banker, secretary-treasurer. The purpose of the organization is to foster better conditions in the field and represent independent Talco operators and others before the Railroad Commission hearings.

Sulphur Bluff Pool

Two more wells were completed in the Sulphur Bluff pool in Hopkins County this week. They are Hagar and others No. 3 and 4 Worsham, in the A. O. Wetmore Survey, west of the discovery well, which appear to be better wells than the first two producers completed on this lease. They have not yet been gauged, but will be this week.

Murchison and others, who own the American Liberty Pipe Line Co., which has an 8-inch trunk line out of the East Texas field to Houston ship terminals, have completed a 25,000-bbl. steel storage tank in the Sulphur Bluff field and have completed survey and are purchasing rights of way for 18 miles on which a line will be laid from the Sulphur Bluff pool to Talco, and construction of the line is to start at once. These associates have contracted for the two-year output of Hagar and others wells in the pool.

The Railroad Commission of Texas has called a hearing in the courthouse at Sulphur Springs on November 20 for the purpose of determining whether or not special rules, regulations, and orders shall be adopted for the prevention of waste in the Sulphur Bluff field. The following day it will hold a similar hearing at Mount Pleasant to discuss the Talco field.

Long Lake Field

The Long Lake field in southwestern Anderson County was extended a half mile north this week when the Palestine Oil & Gas Co. (F. H. E. Oil Co. of Ft. Worth) No. 1 George Robinson, Jr., north of the town of Tucker, came in as a gas and distillate well at a total depth of 5,351 feet. Elevation is 307 feet. The same company is expected to drill a test on the W. L. Moody lands, north of the airport, which is northeast of production, but no location has yet been announced.

Byrd-Frost, Inc. of Dallas, which is drilling wells in on the I. & G. N. Railroad right of way, which runs through the Long Lake field, is planning on bidding on a franchise to serve the city of Palestine with gas. The field is only 12 miles west of Palestine which is now drawing gas from other points in East Texas. A great number of the wells in the Long Lake field are heavy gassers, part of the gas being taken by a line of the Lone Star Gas Co. running west to Waco.

Wildcatting

Only one wildcat location was announced for the district this week, General Crude Oil Co. (Pew family of Philadelphia) No. 1 Mrs. L. S. Stockton lands in the S. Jarboe Survey, approximately 6 miles northeast of Jacksonville in Cherokee County. Rig is being moved in. It will be the first wildcat this company has put down in the East Texas district.

Ed Bateman and others No. 1 S. P. Love, Trinity test, 3 miles west of Corsicana in Navarro County, has been abandoned at a total depth of 4,220 feet in sticky shale in the Lower Glen Rose of the Trinity. Elevation is 422 feet. No showings of oil or gas were recorded.

E. A. Parkford No. 1 W. L. Fagg, located east of Blue Ridge in northeast Collin County, which has been reported as having cored 60 feet of broken Paluxy sand, part of which was saturated, is to be tested this week according to the latest reports. Companies and independents alike are anxiously awaiting the outcome of this test for if it proves a producer it will open another vast area to exploitation in the northeastern part of Texas. Location is in the James Rutherford Survey, on a block of more than 11,000 acres. Top of the Paluxy was reported at 2,672 feet according to a Schlumberger test of the hole. Total depth is 2,771 feet.

EAST TEXAS COMPLETIONS

Gregg County

Atlantic Refining Co. No. 12-A Nicholson, 3,611-3,664 feet, 80 bbls. per hour. Cox & Hamond No. 13 Rodden, 3,553-59 feet, 60 bbls. per hour. Deep Rock Oil Co. No. 22 Jones, 3,604-50 feet, 80 bbls. per hour. Empire Gas & Fuel Co. No. 21 Jeter, 3,571-88 feet, 14 bbls. in 15 minutes. C. A. Lee and others No. 1-A Bunch, 3,570-79 feet, 30 bbls. in 30 minutes. Shell Petroleum Corp. No. 21 Hampton, 3,594-3,652 feet, 25 bbls. in 20 minutes. Sinclair Prairie Oil Co. No. 18-B Aiken, 3,548-80 feet, 80 bbls. per hour; No. 51 Moncrief, 3,559-91 feet, 45 bbls. in 30 minutes; No. 15 Isley, 3,505-35 feet, 100 bbls. per hour. Stanolind Oil & Gas Co. No. 14-A Davis, 3,545-93 feet, 10 bbls. in 15 minutes. Tide Water Oil Co. No. 25 Castleberry, 3,595-3,614 feet, 7 bbls. in 10 minutes; No. 19 Davis, 3,518-60 feet, 14 bbls. in 10 minutes. American Liberty Oil Co. No. 1 Bell, 3,781-82 feet, dry and abandoned. W. Bradley and others No. 3 McNeel, 3,717-21 feet, dry and abandoned.

Central Commercial Oil Co. No. 8 King, 3,717-18 feet, 40 bbls. per hour through three-eighths inch choke. H. S. Christian No. 3 fee, 3,615-23 feet, 45 bbls. per hour. Magnolia Petroleum Co. No. 5 Still, 3,523-45 feet, 20 bbls. in 30 minutes; No. 7 Utzman, 3,525-45 feet, 10 bbls. in four hours on pump. T. Potter No. 6 Culver, 3,526-33 feet, 20 bbls. in six hours on pump. Shell Petroleum Corp. No. 28-A Laird, 3,594-3,606 feet, 35 bbls. in 30 minutes. H. Shulman No. 3 Cole, dry and abandoned, 3,597 feet. Sinclair Prairie Oil Co. No. 21 Lawther, 3,577-3,610 feet, 20 bbls. in four hours on pump. Sun Oil Co. No. 49 Cole, 3,519-37 feet, 63 bbls. per hour; No. 24 Hilburn-Loyd, 3,621-22 feet, 25 bbls. per hour.

Rusk County

Devonian and Gulf Oil Corp. No. 36 Motley, 3,680-97 feet, 40 bbls. per hour through three-quarters inch choke. Groneman and Acme Oil Co. No. 5 Mayfield, 3,598-3,610 feet, 10 bbls. per hour on pump. Gulf Oil Corp. No. 30-C Christian, 3,691-3,706 feet, 45 bbls. per hour through three-quarters inch choke; No. 13 Peterson, 3,622-36 feet, 20 bbls. in 30 minutes. Hester & Silvery No. 1 Warren, 3,826-27 feet, 23 bbls. per hour. Humble Oil & Refining Co. No. 175 Crim, 3,574-91 feet, 72 bbls. per hour. Meco Production Co. No. 10 Williamson, 3,714-15 feet, 20 bbls. per hour. Royal Petroleum Co. No. 2 Gunn, 3,540-88 feet, 40 bbls. in six hours on pump. Stanolind and Crosby No. 2 Terrell, 3,671-76 feet, 11 bbls. per hour through three-sixteenths inch choke.

Arkansas Fuel Oil Co. No. 11 Beale, 3,694-3,719 feet, 60 bbls. per hour. Humble Oil & Refining Co. No. 55-A Silvey, 3,621-3,700 feet, 75 bbls. per hour; No. 31 Wooley, 3,647-48 feet, 70 bbls. per hour. Hunt Production Co. No. 29-C Fair, 3,608-19 feet, 23 bbls. in 14 minutes; No. 15 Moore, 3,615-27 feet, 20 bbls. in 10 minutes. Ortiz Oil Co. No. 9 Hale, 3,730-52 feet, 65 bbls. in three hours on pump. Texas & Canadian Oil Co. No. 7 Kersh, 3,633-34 feet, 40 bbls. per hour. Vaughn Production Co. No. 10 Alford, 3,784-93 feet, 45 bbls. per hour. Ward Oil Co. No. 4 Cox, 3,671-96 feet, 40 bbls. per hour.

Smith County

Sun Oil Co. No. 9 Burns, 3,721-23 feet, 6 bbls. per hour on pump.

Upshur County

Barnett Petroleum Corp. No. 2-B Cannon, 3,630-38 feet, 60 bbls. per hour. Southland and others No. 33 O'Byrne, 3,669-77 feet, 20 bbls. per hour. Sun Oil Co. No. 17 Hargroves, 3,731-32 feet, 10 bbls. per hour.

EAST CENTRAL TEXAS COMPLETIONS

Anderson County

Roeser & Pendleton, Inc., No. 2 Boyer, 4,084 feet, 78 bbls. in 24 hours through one-eighth inch choke. Tide Water and Seaboard Oil Corp. No. 4 Goode, 4,015 feet, 107 bbls. in 24 hours through one-eighth inch choke.

Franklin County

Magnolia Petroleum Co. No. 3 Owings, 4,149-4,300 feet, 15 bbls. per hour. Neversuch Oil Co. No. 1 Phillips, 4,330 feet, 96 bbls. in 24 hours on pump.

Henderson County

Cortex Oil & Gas Co. No. 2 Harton, 4,095-4,107 feet, 166 bbls. in 24 hours through one-eighth inch choke.

Titus County

G. M. W. Oil Co. No. 1 McElroy, 4,208-4,350 feet, 15 bbls. per hour on air lift. Housh & Thompson No. 1 Carr, 4,150-4,338 feet, 301 bbls. in 24 hours. Humble Oil & Refining Co. No. 2 Gault, 4,201-4,310 feet, 238 bbls. in 24 hours through one-quarter inch choke; No. 11 King and Hughes, 4,152-4,322 feet, 227 bbls. in 24 hours on pump.

Navarro County

Ed Bateman and others No. 1 S. P. Love, 3 miles west of Corsicana, dry and abandoned 4,220 feet, elev. 422 feet, top Woodbine 1,918 feet, Glenrose 3,160-68 feet.

Kansas Developments

By
DAL DALRYMPLE

BIG GAS WELLS AT HUGOTON; NEW POOL FOR ELLIS COUNTY

Southwestern Kansas held more than ordinary interest for oil men of the Sunflower state during the past week, with big gas wells in the Hugoton area and the pool opener in Clark County featuring the news. Completions of the week included five oil wells in Russell County, four oil wells in Reno County, one big producer in Ellis County and two big gas wells in the Otis field of Rush County. It was a quiet week for Rice County, the state's busiest area, as only one comparatively small oil well was completed.

One 15,000,000-foot gas well was completed in the Hugoton field of Stevens County, and two others not yet completed were showing for greater production than that. One of these, the Stevens County Oil & Gas Co. No. 1-C Buddenburg, produced more than 17,000,000 feet of gas from pay at about 2,750 feet. The other, Panhandle Eastern Co. No. 1 Light, was reported showing for more than 16,000,000 feet of gas. These wells are considered of more than usual importance, because previously only three or four wells in the big Hugoton field have produced more than 13,000,000 feet of gas.

Olson Oil Co. No. 1 Morrison, C SE SW section 17-32-21w, the rank wildcat and apparent pool opener in Clark County, swabbed 206 bbls. of oil in 2 hours and 10 minutes from Viola lime, at total depth of 6,481 feet. In the next 5 hours it produced 30 bbls. of oil, duce to a cavy hole. Operators were running a 5-inch liner.

Lario Oil & Gas Co. No. 1 Marshall, NW SE NE section 36-11-18w, wildcat in Ellis County, was showing as a new pool opener. It had pay at 3,640 feet, total depth 3,650 feet, and was reported to have produced 795 bbls. of oil but had not been completed.

The Hauschild pool of Rice County was extended one-half mile east at Deal Oil & Gas Co. No. 1 McConnell, NW NW NE section 14-21-7w, which had a hole full of oil at 3,371 feet, total depth, and was awaiting connections before testing.

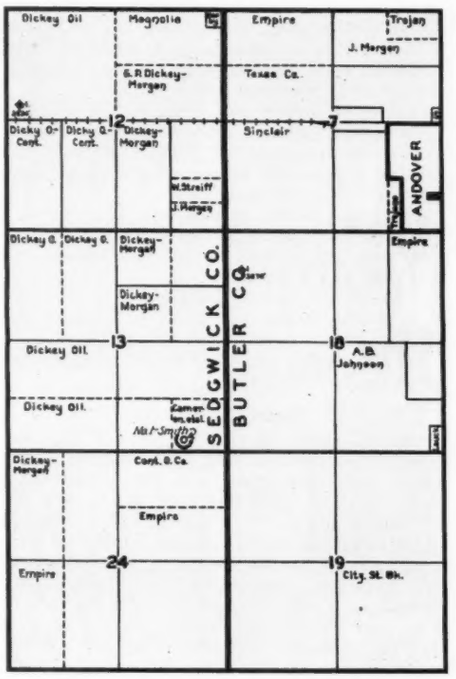
Russell County

Shell Petroleum Corp. had the largest Russell County completion of the week at No. 2 Michaelis, NW SE NE section 31-15-13w. It pumped 1,658 bbls. of oil in 22 hours after acidizing with 4,000 gallons and made potential of 1,945 bbls. Production was from Siliceous lime, topped at 3,299 feet; total depth, 3,307 feet. Top of Oswald lime was 3,060 feet. Derby Oil Co. No. 1 Michaelis, NE SE NW section 31-15-13w, topped anhydrite at 825 feet; Topeka lime, 2,706 feet; had pay at 2,889-96 feet, total depth, and was acidized with 1,000 gallons. It pumped 578 bbls., with 2½ per cent water and basic sediment, in 15 hours and made potential of 596 bbls., cutting 4 per cent.

Empire Oil & Refining Co. No. 2 Bender "C," C E half E half NW section 26-15-14w, topped Oswald lime at 3,102 feet; had Siliceous lime at 3,344-46 feet, total depth, and pumped 115 bbls. in seven hours. After acidizing with 2,000 gallons, it made potential of 217 bbls. of oil. Stanolind Oil & Gas Co. No. 1 J. H. Dortland "C," NE NE SE section 5-14-15w, pumped 641 bbls. of oil in 19 hours after acidizing with 4,000 gallons and made potential of 1,008 bbls. Top of anhydrite was 918 feet; Topeka lime, 2,765 feet; total depth, 2,776 feet. Darby Petroleum Corp. No. 5 Dumler, SE NW NW section 11-14-15w, topped Topeka lime at 2,790 feet; Oswald lime, 3,065 feet; Siliceous lime, 3,316 feet; total depth, 3,320 feet. It made potential of 592 bbls. of oil.

New work in Russell County: Central Petroleum Co. No. 3 Rusch "A," SW SE SW section 19-12-15w, location; same operator's No. 2 Deckert, NW NE NW section 30-12-15w, location; Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 2 Jellison, NW NE NW section 30-13-14w, cellar; Aylward No. 1 Peterson, NW SW NW section 12-14-15w, cellar; Hartman & Blair No. 1 Harbaugh, NE NE SW section 25-14-15w, an old well deepening, drilling at 3,027 feet; National Refining Co. No. 1 East Reinhardt "A," NW NW NE section 26-14-15w, location; Empire Oil & Refining Co. No. 1 Frederick, SE cor. section 18-15-11w, moving in material.

Central Petroleum Co. No. 2 Rusch "A," C N half SE SW section 19-12-15w, was acidized with



Cameron and associates were building rig for No. 1 Smith, SW SE SE section 13-27-2e, Sedgwick County wildcat, east of Wichita and the Eastborough pool.—(Mid-Continent Map Co., Wichita)

2,000 gallons and pumped 523 bbls. of oil, with 2 per cent water, and was drilling ahead at 3,010 feet. Hartman & Blair No. 4 Rouback "A," SW SW NW section 2-14-15w, had Kansas City lime at 3,062-63 feet, total depth, and flowed and pumped 2,768 bbls. in 24 hours, but was not completed. J. C. Shaffer, Inc. No. 6 Polcyn, NW SE NE section 10-14-15w, was bottomed in Gorham sand at 3,279 feet and pumped 454 bbls. of oil in 24 hours.

Barton County

The biggest producing well of the week completed in Barton County was Lario Oil & Gas Co. and Indian Territory Illuminating Oil Co. No. 2 Meyers, C S half S half SW section 13-20-11w. It topped Siliceous lime and set 7-inch casing at 3,262 feet and was bottomed at 3,274 feet. It pumped and flowed 2,210 bbls. of oil in 24 hours.

Darby Petroleum Corp. and Smith & Ash No. 2 Turgeon, SW cor. section 9 16-12w, pumped 400 bbls. of oil in 18 hours from LaMotte sand at 3,352-53 feet, total depth, and sandy Conglomerate at 3,326 feet. Later, on completion test, it made potential of 392 bbls. of oil, with 130 bbls. of water. It is in the Beaver pool. Darby Petroleum Corp. No. 4 Kultgen, C S half N half NW section 16-16-12w, topped Oswald lime at 3,080 feet; sandy Conglomerate, 3,385 feet; total depth, 3,404 feet. After perforating casing, it made potential of 235 bbls. of oil, with 67 bbls. of water.

F. E. Bailey and others No. 1 Hammeke, NE NE SW section 12-18-12w, wildcat, was abandoned at 315 feet, total depth.

First reports were made of three new operations in Barton County. Duee & Brouk No. 1 Baker, NE SE SW section 16-17-13w, was moving in tools for a wildcat northeast of Hoisington; Rose Spring Drilling Co. and others No. 2 Rick, SE SW SW section 1-19-11, was a location; I. W. Murphin No. 1 Lanterman, SE SW NE section 15-19-11w, was a location.

Skelly Oil Co. No. 3 Joe Bloomer, SW SW NE section 36-17-11w, in the Bloomer pool, had Siliceous lime at 3,267-70 feet, total depth, and pumped 2,156 bbls. of oil in 20 hours, but was not completed.

Estimated Daily Production

Estimated daily average production of Kansas for the week ending November 14, and for the preceding week, was as follows:

	Barrels	
	Nov. 14	Nov. 7
Oxford City	3,050	3,850
Burrton	13,600	13,475
Ritz-Canton	5,900	5,750
Hollow-Nikkel	3,850	3,600
Voshell	2,825	2,800
Ellsworth:		
Lorraine-South Lorraine	6,470	4,000
Other pools	1,423	650
Rice-Barton counties:		
Bloomer	2,060	875
Chase	9,295	6,175
Geneseo	1,715	950
Raymond	2,880	2,400
Silica	13,570	6,875
Keesling	2,600	2,150
Hauschild	2,030	650
Miscellaneous Rice	5,226	3,165
Miscellaneous Barton	4,139	2,833
Russell County:		
Fairport	2,105	2,390
Gorham-East Gorham	5,515	5,500
Russell	3,180	2,900
Sullivan	2,830	3,260
Trapp	3,380	2,080
Other pools	9,667	5,659
Sedgwick County:		
Valley Center	1,265	1,305
Greenwich	1,185	1,340
Robbins	1,175	1,135
Eastborough	715	815
Other pools	450	326
Ellis County	3,065	2,537
Kingman County	630	547
Stafford County	1,965	2,650
Greenwood County	10,100	10,000
Butler County	17,800	17,000
Other fields	21,415	23,808
Total Kansas	167,075	143,450

Rice County

Only one new oil well was completed in Rice County, an unusually low record for this busy area. Phillips Petroleum Co. and others No. 12 Krampe, NW NE SE section 31-19-10w, Silica field, made potential of 932 bbls. of oil, with some salt water. Siliceous lime was topped and 7-inch casing set at 3,285 feet; total depth, 3,290 feet. It pumped 731 bbls. of oil in 19 hours before completing test.

Stapleton and others No. 1 Callis, NW NE SE section 16-19-9w, in the Chase district, topped Siliceous lime at 3,233 feet; had hole full of water at 3,256-58 feet, total depth, and was abandoned.

Sinclair Prairie Oil Co. No. 2 Volkland, SW SE SE section 20-19-9w, an old well, was deepened to granite at 3,747-48 feet, total depth, and recom-

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pleted as a water disposal well. It took 140 bbls. of water in 30 minutes.

The only new work reported in Rice County was at Sinclair Prairie Oil Co. No. 2 Proffitt, SW NW NW section 3-20-10w, which was rigging up rotary.

Shell Petroleum Corp. No. 1 Bayer, SW SW SE section 29-19-10w, was acidized with 1,000 gallons and pumped 141 bbls. of oil and 350 bbls. of water in 12 hours, but had not been completed. It topped Siliceous lime at 3,282 feet and was bottomed at 3,297 feet. Texas Co. No. 2 Kleile, NW NW SW section 34-19-10w, plugged back from 3,331 feet to 3,328 feet, was acidized with 1,000 gallons and then 2,000 gallons and pumped 14 bbls. of oil and 5 bbls. of water in eight hours. J. H. Tatlock No. 12 Berscheit, NW SE NW section 6-20-10w, topped Siliceous lime and set 7-inch casing at 3,268 feet, was bottomed at 3,274 feet and had a hole full of oil. Same operator's No. 11 Berscheit, SE SW NW section 6-20-10w, had a hole full of oil at 3,274 feet, total depth. Top of Siliceous lime was 3,263 feet.

Ellis County

Ryan Consolidated Co. No. 2 Bemis "A," SW NW NW section 22-11-17w, Ellis County, made potential of 2,020 bbls. of oil in 24 hours, down one hour, and was completed at 3,401 feet, total depth, in Siliceous lime topped at 3,396 feet, where 6-inch casing was set. It topped anhydrite at 1,089 feet.

Champlin Refining Co. and others No. 1 Hadley, SE SW NE section 30-11-17w, wildcat, had 500 feet of water in the hole from Siliceous lime at 3,790-3,830 feet, total depth, and was dry and abandoned. Top of anhydrite was 1,356 feet; Topeka, 3,085 feet; Lansing, 3,389 feet; Basal sand, 3,610 feet; Conglomerate, 3,600 feet.

Glick & McMorrow No. 1 Staab, SW SW SE section 6-13-17w, wildcat, topped anhydrite at 1,295 feet; Oswald lime, 3,340 feet; Siliceous lime, 3,631 feet; had a hole full of water at 3,638-40 feet, total depth, and was abandoned.

Work had started at one new Ellis County wildcat. It was Loomis & Etyner No. 1 O'Laughlin, SE SE NW section 27-13-18w, northeast of Hays. Rig was being built.

Lario Oil & Gas Co. No. 1 Marshall, NE SE NE section 36-11-18w, wildcat, was bottomed at 3,650 feet and swabbed at the rate of 17 bbls. of oil an hour. It had pay at 3,640 feet, in Siliceous lime topped at 3,638 feet.

Reno County

Olson Oil Co. No. 6 England, NE SW SE section 34-23-4w, Burrton field, Reno County, made potential of 40 bbls. of oil, with some water, and was completed at 3,375 feet, total depth. Top of Chat was 3,256 feet.

Sinclair Prairie Oil Co. No. 4 Seedle, NE SE NE section 17-24-4w, topped Chat at 3,290 feet; total depth, 3,379 feet; flowed 360 bbls. of oil in 24 hours; acidized with 2,000 gallons and made potential of 1,134 bbls. of oil, with 300 bbls. of water. Falcon and others No. 1 Collins, C NE SW section 16-24-4w, topped Chat at 3,309 feet and was bottomed at 3,381 feet. It was acidized with 4,500 gallons and made potential of 812 bbls. of oil, with 1,500 bbls. of water.

Derby Oil Co. No. 3 Beltz, SE SW SW section 4-26-4w, Hilger area, made potential of 728 bbls. of oil from Viola lime at 4,107-10 feet, total depth. It pumped 596 bbls. of oil in 17 hours before completion test. Top of Chat was 3,655 feet; base of Mississippi, 3,976 feet; Misener sand, 4,072 feet. Rose Spring Drilling Co. and others No. 1 Williams, SE cor. section 5-26-4w, topped Chat at 3,622 feet; based Mississippi at 3,953 feet; topped Misener sand at 4,042 feet; Viola lime, 4,077 feet; had a hole full of water at 4,089 feet, total depth, and was abandoned.

New work in Reno County: Empire Oil & Refining Co. No. 1 Schrock, NW NW SE section 22-24-5w, location for a wildcat north of Yoder; Haynes Drilling Co. and others No. 2 Mueller, NE NE NW section 30-24-4w, location.

Skelly Oil Co. and others No. 2 Cheshire, C SW SE section 3-24-4w, drilled to 3,375 feet, acidized with 3,000 gallons and flowed 135 bbls. of oil in three hours. Shell Petroleum Corp. No. 2 Brown, NE NW section 10-24-4w, topped Chat at 3,279 feet, was bottomed at 3,369 feet; pumped and flowed 310 bbls. of oil, with 8 per cent water, in 20 hours, and was acidized. Shell Petroleum Corp. No. 3 Reese, C E half E half SW section 11-26-9w, drilled to total depth of 4,134 feet, acidized with 2,000 gallons, and flowed 451 bbls. of oil in one hour. It is in the prolific Lerado pool.

Harvey County

Two good producing wells were completed in Harvey County. Western Kansas Oil & Refining Co. No. 1 Dettweiler, C E half SE NE section 2-23-2w, topped Chat at 2,962 feet; had pay at 2,990-93 feet, total depth; flowed 645 bbls. of oil in six hours and made potential of 2,530 bbls. in 24 hours.

Palmer and others No. 2 McBurney, C SW NW section 12-23-2w, made potential of 1,508 bbls. of oil in 24 hours. It topped Chat at 2,946 feet; total depth, 2,976 feet.

No new work was reported in Harvey County.

Western Kansas Oil & Refining Co. and others No. 1 Hertzler, C N half NW NW section 13-23-2w, was waiting after acidizing with 1,450 gallons at total depth of 2,748 feet. It based Kansas City lime at 2,730 feet, and had 400 feet of oil in the hole from 2,700-09 feet.

Rush County

Interstate Production Co. and others No. 1 Brack Community, C NE section 12-18-16w, Rush County, topped sand at 3,507 feet; had first gas at 3,514 feet; was bottomed at 3,538 feet, and produced 41,000,000 feet of gas, completed.

Joe Aylward and others No. 1 Riedl, C NE section 13-18-16w, produced 46,000,000 feet of gas and was completed in sand at 3,489-3,515 feet, total depth.

Ellsworth County

Empire Oil & Refining Co. and others No. 5 Jenssen "B," SE NE SW section 34-17-8w, Ellsworth County, was acidized with 4,000 gallons and made potential of 640 bbls. of oil, with 240 bbls. of water. Top of Siliceous lime was 3,222 feet; total depth, 3,271 feet, completed.

Empire Oil & Refining Co. No. 12 Rolfe, NW NE NE section 14-17-9w, an old well, was deepened from 3,855 feet to 4,045 feet, and was to be a water disposal well, but had not been completed.

McPherson County

Continental Oil Co. No. 1 Blair, SW cor. section 21-21-1w, was the only McPherson County completion. It topped Hunton lime at 3,316 feet; total depth, 3,338 feet; acidized with 4,000 gallons and made potential of 1,508 bbls. of oil.

The only new work in Ellsworth County was at Sinclair Prairie Oil Co. No. 3 Krehbiel, NE NE SE section 4-21-3w, an old well, rigging up to deepen from 3,445 feet.

Stafford County

Empire Oil & Refining Co. completed No. 3 Sifers, NW NE SW section 3-21-11w, Stafford County, at 3,909 feet, total depth, as a water disposal well. It took 50 bbls. of water per hour.

Trego County

Alma Petroleum Co. and McNeely No. 2 Kraus, C SW SE section 15-11-23w, Wakeeney pool, Trego County, made potential of 428 bbls. of oil, with 35 bbls. of water, and was completed in pay at 3,574-79 feet, total depth. It was acidized with 2,000 gallons. Kansas City lime was topped at 3,481 feet.

Kingman County

Skelly Oil Co. completed No. 8 J. M. Ratcliff, SE SE NW section 30-27-10w, Cunningham pool, Kingman County, at 3,440 feet, total depth. After acidizing with 2,000 gallons, it made potential of 192 bbls. of oil. Top of Kansas City lime was 3,395 feet.

Rooks County

Snowden & McSweeney No. 1 Hindman, C E half NW section 35-7-17w, wildcat southeast of Stockton, in Rooks County, was moving in material.

Greenwood County

Arthur Lykes and others No. 3 Beauchat, C S half NW SE section 5-24-12, Greenwood County, was completed at 1,608-32 feet, total depth, in sand and pumped 40 bbls. of oil per day.

Simmons and Amerada Petroleum Corp. No. 11 Ellis, NW NW SW section 26-23-11, pumped 30 bbls. of oil in 24 hours after a shot with 100

quarts at 1,884-1,924 feet, total depth, and was completed.

Butler County

Ohio Fuel Co. No. 4 Jacobs, C SE NW section 6-25-4, new Butler County well, was drilling at 790 feet. Sheldon & Wixson No. 2 Houston, NE NW NE section 12-25-3, was rigging up. Ralph Wixson and others No. 1 Coulter, NW SW NE section 3-27-7, wildcat south of the Young pool, was moving in material.

Woodson County

Chris L. Sheedy and others No. 5 J. W. Tipton, SE NE NW section 28-25-14, Woodson County, topped sand at 1,414 feet; was bottomed at 1,461 feet; shot with 300 quarts and pumped 275 bbls. of oil in 24 hours, completed. Same operators' No. 2 H. W. Tipton, NW NE NE section 29-25-14, was temporarily abandoned at 1,463 feet, total depth.

Chris L. Sheedy and others No. 2 Lee, NW SW NE section 28-25-14, was rigging up machine.

Cowley County

Black Gold Oil Co. No. 1 Smallfield, NW NW SW section 8-35-3, Cowley County, had sand at 3,485-96 feet, total depth, was shot with 20 quarts and was completed. Production was estimated at 30 bbls. of oil a day.

Sinclair Prairie Oil Co. No. 12 Detmer, C E half NW SW section 24-32-4, was a location. Tom Palmer No. 1 Pierce, SE SE SW section 14-31-3, was location for a wildcat southeast of the Smith pool.

Coffey County

Spencer and others No. 2 McLean, SE SW SW section 12-23-14, the only new test in Coffey County, was rigging up machine.

Sumner County

Stelbar Oil Corp. was rigging up rotary for No. 12 Erker, SW SE SW section 33-31-1w, in the Wellington pool, Sumner County.

Stevens County

Interstate Production Co. No. 1 Light, C NE section 23-33-39w, Hugoton gas field, Stevens County, produced 15,000,000 feet of gas and was completed in pay at 3,505-2,614 feet, total depth.

Eastern Fields

(Continued from Page 62)

In Roane County, L. C. Young and others completed a fair gas well on the Herbert Whited and others farm in Harper district, total depth 1,699 feet with Salt sand at 1,677 feet and 6,000,000 feet of gas at 1,677-99 feet. It was not shot. In this district the same operators drilled a test on the J. N. Hawkins farm to a depth of 1,893 feet and it was dry.

Outside Deep Tests

In Wirt County, Glen Roberts is drilling at 2,900 feet on the Roberts Oil Co. property on the Burning Springs anticline in Burning Springs district. Godfrey L. Cabot, Inc., remains shut down at 2,440 feet on the Julia Blankenship farm. This operator is drilling at 700 feet on the Walter Hoffman No. 1 lease, 1,060 feet in the Hoffman No. 2 lease, 1,650 feet on the G. L. Cabot, in fee, all in Burning Springs district. In Sheridan district, Calboun County, this operator is drilling at 900 feet on the Sarah J. Ferrell farm and is shut down fishing at 1,700 feet on the Mary V. Bunner farm, same district. In Geary district, Roane County, this operator is down 2,050 feet on the T. F. Smith farm.

Other Operations

In Cabell County the Larner Gas Co. is deepening No. 1 Fred Carter, on Fudges Creek in Grant district. On Right Fork of Fourpole in Guyandotte district, Lee Sansom is drilling a second test on the F. L. Whitaker farm.

In Hancock County the R. J. Braden Co. started No. 12 J. H. and A. Ward, Grant district.

In Wirt County the F. O. Royalty Co. has started drilling a test on the F. F. Daniels farm in Reedy district. In Clay district, W. C. Pallerson has a rig up for a test on the Birdie K. McCosh farm.

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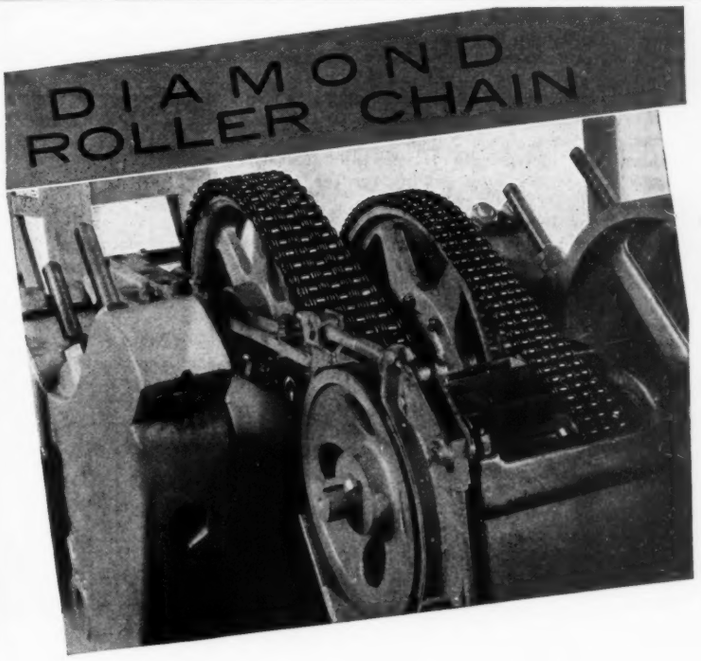

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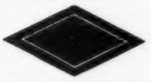
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Southwest Texas District

By
GEORGE WEBER

HEAVY RAINS RETARD WORK; SEVERAL WILDCAT FAILURES

HOUSTON, Tex., Nov. 16.—The past week marked one of the quietest periods Southwest Texas has seen in several months. From the standpoint of new production development, little occurred outside of field limits. Heavy rains for the past several weeks have been a considerable factor in hampering the movement of equipment and have shown effect in the lateness with which many scheduled wildcats are getting under way. Aside from completions in the various active fields, the abandonment of several wildcat failures claimed attention. Further discouragement was encountered in some fields where production limits were defined.

Volume of drilling has not fallen off as much as is indicated in the completions of the week, and decided increases in the activity of some fields was seen to continue during the past week. The Saxet, Saxet Heights and Flour Bluff fields combine to make Nueces County the busiest in South Texas, and Lopez, Loma Novia, Seven Sisters and O'Hern, and increasingly Haynes and Escobas, furnish the bulk of the drilling for the Laredo district.

The Lower Rio Grande Valley is very quiet, but immediate and projected drilling in three counties of that area will revive activity shortly, it is expected. The Fault Line Zone and Edward Plateau area to the north are seeing a gain in drilling wells, the majority of them being shallow tests in Guadalupe, Bexar, Caldwell and Atascosa counties.

Wildcat Failures

The Laredo district and Bee County suffered greatest from failure of wildcat tests during the week. In Bee County Black Development Co. No. 1 Jones, 6 miles northwest of Beeville, was abandoned at 5,010 feet, and 2 miles southeast of the Pettus field Humble Oil & Refining Co. failed to get production in No. 9 McKinney, abandoned at 4,141 feet. The Voss field of the same county was slightly extended by the completion of the Devonian Oil Co. No. 3 Voss, and production was delimited on the northwest by the outpost well, Humble Oil & Refining Co. No. 1 Yoward, abandoned at 4,007 feet.

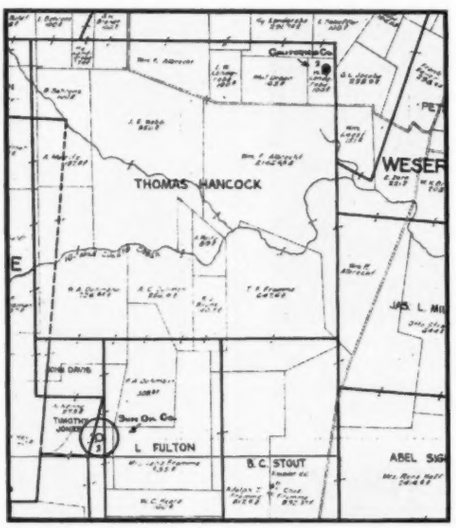
Duval, Webb and Zapata counties had six dry holes during the week. Among the failures were Lipscomb & Daubert No. 1 Peters, 2½ miles east of the Peters field in Duval County; Mills Bennett Producing Co. No. 3 Yates, 4 miles southeast of the Labbe field, of the same county; Rogers & Rogers No. 1 Rogers in the El Mesquite area of Duval County, and Gilcrease Oil Co. No. 1 Trevino, which was carried to 3,000 feet in Zapata County. Despite the number of abandonments, the Laredo district remains one of the most active wildcatting areas in the state, with five tests drilling in Duval County and three in Webb County. In the latter county the Mid-Continent Petroleum Corp.'s No. 1 Laubscher, after being held up for three weeks on a fishing job, is again drilling. Other new tests are projected, indicating a continuance of the exploration.

Lopez Field

The Lopez field, now extended into Duval County, is the center of much drilling at present. Rigs are active in both the Duval and Webb counties sections, and completions run high due to the shallow depth of the producing horizon and the ease of drilling. The field has been continuously extended to the north, east and northeast since the discovery of gas production in a north outpost last April by the Luling Oil & Gas Co., and the subsequent oil discovery by Magnolia in June. During the past week five oil wells were brought in, an average number for this field.

The O'Hern field, also lying in Webb and Duval counties, south of Lopez, is becoming more active since the completion of two exceptionally large producers several weeks ago. In the former field seven wells are now actively drilling, one of which was added this week, and additional companies and independents are planning tests in the area.

Zapata County, which during the past few years has been comparatively quiet, is receiving considerable play in two fields, the Haynes field located on the Haynes ranch of the Comitas and Villa grants and the Escobas field lying partly in the Zorro ranch. Haynes activity has tapered off during the past three weeks, but the shallow production found at around 1,000 feet make completions rapid.



Sun Oil Co. No. 1 Fromme, wildcat, indicated by the large circle, is drilling below 4,600 feet and approaching the horizon producing the discovery well of the new Weser field, the California Co. No. 1 Langrebe.—(Gulf Coast Engineering Co., Maps, Houston)

The Escobas field is due for more play in the near future with the campaigns of two operators announced this week through several new locations. Glen Harroun and Frank Schneider will drill several wells in the field within the next few weeks. The Haynes development received a setback recently when United Production Co. failed to find oil in two tests located in Block 13 of the Gunby Subdivision, Haynes ranch.

Seven Sisters

Drilling activity holds up well in the Seven Sisters field of Duval County, which gained six new producers last week. One of these, Humble Oil & Refining Co. No. 34 Smith gauged 1,050 bbls. per day through a one-half inch choke, one of the best wells yet brought in in the field. Loma Novia, Hoffman and Piedra Lumbre have declined in activity considerably in the past few months, and Loma Novia, formerly the leading field in drilling, now has only seven rigs active. Inside locations have been substantially drilled up in this field, and tests now include more edge and outpost locations.

The Lower Gulf Coast activity centers as usual in Nueces County. Saxet, the busiest drilling field in the section, totaled seven new oil wells during the past week. Development in this field, which in the recent past has been primarily in the 5,800-foot Frio area, is showing a tendency to move toward the Clarkwood or 4,400-foot sand area. The Frio sand has been foremost in development for several months, and although inside locations are not nearly all drilled up, the activity which brought offset drilling is declining. Of the wells completed last week, three are producing from the Frio and two from the 4,400-foot Clarkwood sand.

Saxet Heights

Saxet Heights drilling continues slowly, with six completions for the past week, some of them for comparatively low initial production. The deep wildcat test located between the two fields was abandoned during the week. Drilled by the Barnsdall Oil Co. on the Weil lease in Lot 5 of the McBride Partition, the test was carried to a depth of 7,500 feet, encountering no shows of production. This definitely separates the two producing areas, although production is found on adjoining leases to the north along the edge of Nueces Bay.

Flour Bluff

The Flour Bluff field, expected to be one of the major fields of the county, is rapidly developing with four rigs drilling and a fifth reworking a well. Four of the present active rigs are drilling for the Humble Oil & Refining Co., which together with the Barnsdall Oil Co. and M. F. Hurlburt, hold the bulk of the leases in the new field. Considerable interest was manifest during the past week in the announcement of a wildcat test to be drilled by Steve Paul on the Annie T. Smith land in section 38 of the Flour Bluff subdivision. The test will be located on the edge of Oso Bay, offsetting the edge of the King ranch, leased by the Humble Oil & Refining Co.

Two Goliad tests are progressing and attracting attention as they near critical depths. One, the Sun Oil Co. No. 1 Fromme, is along the trend of the newly opened Weser field, and the Felmont Oil Corp. No. 1 Hoff is an offset to the No. 1 Maetz, which opened new gas production in the county recently. The No. 1 Fromme is down below 4,600 feet and the Hoff test is just beginning to drill below surface casing. An additional wildcat for the county, H. H. Weinert's No. 4 Runge Loan Co., will rig up shortly for a test in the western section of the county.

Canadian Crude Production

OTTAWA, Ontario, Nov. 14.—Crude production from all Canadian fields in August amounted to 139,789 bbls. compared with 139,940 bbls. in July and 121,517 bbls. in August, 1935. For the eight months Canadian production aggregated 962,807 bbls. against 957,275 bbls. in the same period last year.

Alberta production in August was 124,287 bbls. compared with 102,741 bbls. in same month, 1935; and for eight months it was up from 832,636 to 840,821 bbls. Ontario production for August dropped from 14,468 to 13,534 bbls., and from 111,007 to 110,101 bbls. for eight months. New Brunswick production increased from 1,893 to 1,968 bbls. for August and from 8,721 to 11,885 bbls. for eight months.

Rocky Mountain Area

By
T. R. INGRAM

SECOND EASTERN COLORADO DEEP WILDCAT IS DRY HOLE

DENVER, Colo., Nov. 16.—Colorado had three interesting developments. The Continental Oil Co. No. 8 Buckeye-Union Pacific, on the Wellington dome, has 4,470 feet of oil in the hole from the Dakota, below the Muddy from which the field produces. The Mountain Fuel Supply Co. No. 1 Allen, on the Powder Wash structure, in Moffat County, gives promise of opening a new oil pool. The Indian Territory Illuminating Oil Co. No. 1 Vorce, Washington County, was abandoned in schist at 7,005 feet and eastern Colorado prospects for an oil field still remain in the future.

In Wyoming attention is being attracted to a well on the Garland dome which is showing for an oil well in the Embar, but drilling deeper, oil apparently being pulled from the flanks by a gas well which has been out of control since last January. The Hidden dome abandoned gas field is attracting attention as an oil pool with three completions, the best making 135 bbls. naturally at 1,385 feet. The Brophy wildcat on Willow Creek, Weston County, was dry and abandoned. Osage had one small well and one dry hole.

Montana reported two small gas wells in Big Horn County and five gas wells in Phillips County. Cut Bank had two completions, the Cat Creek field a small well and the Kevin-Sunburst field two small wells.

NEW MEXICO

Gulf Oil Corp. completed the largest New Mexico oil well of the week at No. 3 H. Leonard, C NW NE section 22-21-36, in the Eunice field. It had an initial 24-hour production of 2,040 bbls., naturally, through tubing. Gas gauged 1,724,000 feet. Production was from pay at 3,805-95 feet, total depth.

Two other wells were completed in the Eunice field. Sun Oil Co. No. 3 Adkins, C SW SE section 3-21-36, was bottomed in pay at 3,859 feet, with top of the formation at 3,780 feet. It was acidized with 4,000 gallons and flowed 1,272 bbls. in the first 24 hours. Atlantic Refining Co. No. 3 State "L," C SW SW section 6-21-36, had natural production of 312 bbls. of oil through tubing in 24 hours. It had pay at 3,759-3,857 feet, total depth.

In the Monument area, Ohio Oil Co. No. 5 Barber, C NW NW section 5-20-37, was acidized with 3,000 gallons and in the first 24 hours flowed 840 bbls. of oil through 1-inch tubing choke. It was producing from pay at 3,790-3,897 feet, total depth. Gulf Oil Corp. No. 3 Culp "B," C SE SE section 31-19-37, flowed 396 bbls. of oil naturally through tubing in 24 hours and was completed at 3,895 feet, total depth. Top of pay was 3,785 feet. Humble Oil & Refining Co. No. 2 State-Aggies, C SW SW section 31-20-37, topped pay at 3,736 feet, total depth 3,850 feet in pay. After acidizing with 1,000 gallons, it flowed 360 bbls. of oil through three-fourths inch tubing choke in 24 hours.

Three other Lea County wells were completed. Magnolia Petroleum Co. No. 2 O. E. Carson, C NW NW section 33-21-37, Hardy area, was shot with 130 quarts at 3,702-3,766 feet, and flowed 228 bbls. of oil through tubing in the first 24 hours. Before shooting it swabbed 75 bbls. daily. Top of pay was 3,702 feet; total depth, 3,786 feet. Samedan Oil Co. No. 1 Hughes, C NE SW section 4-23-37, topped pay at 3,600 feet; total depth, 3,648 feet; was shot with 220 quarts at 3,535-3,625 feet and acidized with 2,000 gallons, and pumped 75 bbls. of oil in 24 hours. Before acidizing it swabbed 32 bbls. in 24 hours. Skelly Oil Co. No. 1 G. W. Simms, C NE NW section 10-23-37, Simms pool, had natural production of 240 bbls. of oil through tubing in 24 hours. It had pay at 3,520-2,635 feet, total depth. Emperor Oil Co. No. 1 State, C SW SW section 5-21-35, wildcat, was dry and abandoned at 3,852 feet, total depth. Sulfur water intruded at 3,850 feet.

Monument Area

Gulf Oil Corp. No. 8 Graham-State, C NW SE sec. 25-19-36. T.D. 3,975 ft.; to acidize.

Amerada Pet. Corp. No. 1 Theo. Anderson, sec. 8-20-37. T.D. 3,800 ft.; set 8¼-in. csg.

Gulf Oil Corp. No. 2 Kutter-State "B," C SW NW sec. 38-19-37. T.D. 3,946 ft.; tubing to test.

Gulf Oil Corp. No. 2 Williams, C SW SE sec. 29-19-37. T.D. 3,914 ft.; acidize; testing.

Atlantic Pet. Corp. No. 1 Crutchfield, C NE SE sec. 32-19-37. Drlg. 3,700 ft.

Empire Oil & Ref. Co. No. 2 Laughlin, C SW SE sec. 5-20-37. T.D. 3,890 ft.; tubing to test.

Ohio Oil Co. No. 4 Barber, C NE SW sec. 5-20-37. T.D. 3,895 ft.; swabbing.

Tide Water Oil Co. No. 2 Anderson, C NE SE sec. 8-20-37. T.D. 3,810 ft.; set 7-in. csg.

Skelly Oil Co. No. 2 State "F," C SW SE sec. 17-20-37. Cellar and pits.

Amerada Pet. Corp. No. 5 State "T," C SW NE sec. 20-19-37. Drlg. 3,866 ft.

Sun Oil Co. No. 1 Laughlin, C NW SW sec. 4-20-37. T.D. 3,772 ft.; set 7-in. csg.

Sun Oil Co. No. 2 Laughlin, C NE SE sec. 5-20-37. Drlg. 3,802 ft.

Phillips Pet. Co. and Anderson-Prichard Oil Corp. No. 1 Hobbs, C NE SW sec. 18-20-37. Drlg. 2,690 ft.

Texas Co. No. 4 Mattern, C NE SW sec. 20-19-37. Drlg. 2,912 ft.

Gulf Oil Corp. No. 2 Love, C SE SE sec. 32-19-37. Drlg. 3,589 ft.

Shell Pet. Corp. No. 3 Cooper "B," C SW NW sec. 4-20-37. Drlg. 3,490 ft.

Amerada Pet. Corp. No. 1 Adkins, C SW SW sec. 5-20-37. Drlg. 3,026 ft.

Texas Co. No. 3 Cooper, C SW NE sec. 5-20-37. Drlg. 3,142 ft.

Continental Oil Co. No. 5-A-3 Reed, SE SW NE sec. 3-20-36. T.D. 1,305 ft.; set 7⅝-in. csg.

Humble O. & R. Co. No. 1 State "D," C SE NE sec. 20-19-37. Drlg. 2,900 ft.

Texas Co. No. 2 Cooper, C NE NE sec. 5-20-37. Drlg. 2,700 ft.

Continental Oil Co. No. 1 Britt "A," C NE NW sec. 18-20-37. Drlg. 2,700 ft.

Amerada Pet. Corp. No. 7 Weir, C SW SE sec. 26-19-36. Drlg. 2,753 ft.

Continental Oil Co. No. 1 State "A," C SW SW sec. 26-19-36. Drlg. 1,540 ft.

Continental Oil Co. No. 1 Sanderson "A," C E half NE NE sec. 10-20-36. Drlg. 878 ft.

Continental Oil Co. No. 2 Sanderson "A," C N half NW SE sec. 11-20-36. Bldg. rig.

Amerada Pet. Corp. No. 7 State "T," C NW SW sec. 28-19-37. Cellar and pits.

Amerada Pet. Corp. No. 5 Andrews, C SW NW sec. 12-20-36. Drlg. 2,145 ft.

Gulf Oil Corp. No. 1 Theo. Anderson, C SW SE sec. 8-20-37. Drlg. 2,355 ft.

Stanolind O. & G. Co. No. 1 Gillully, C SW SW sec. 8-20-37. Cellar and pits.

Shell Pet. Corp. No. 2 Cooper "B," C NW NW sec. 4-20-37. Drlg. 3,613 ft.

Amerada Pet. Corp. No. 6 State "T," C NW NE sec. 20-19-37. R.U.R.

Empire O. & R. Co. No. 3 Laughlin, C SE SE sec. 5-20-37. Cellar, pits.

Ohio Oil Co. No. 6 Barber, C NW SW sec. 6-20-37. Cellar and pits.

Anderson-Prichard Oil Corp. No. 5 Britt, C NE SW sec. 7-20-37. R.U.R.

Anderson-Prichard Oil Corp. No. 6 Britt, C SE SW sec. 7-20-37. Cellar and pits.

Gulf Oil Corp. No. 1 Graham-State "G," C SW SE sec. 17-19-37. Loc.

Gulf Oil Corp. No. 3 Williams, C SE SE sec. 29-19-37. Loc.

Ohio Oil Co. No. 7 Barber, C SW NW sec. 5-20-37. Loc.

Eunice Area

Continental Oil Co. No. 5-B-14 Lockhart, C NW SW sec. 14-21-36. Drlg. 1,590 ft.

Continental Oil Co. No. 4-D-15 State, C SW SE sec. 15-21-36. Drlg. 2,879 ft.

Continental Oil Co. No. 5-D-15 State, C SW NE sec. 15-21-36. T.D. 1,395 ft.; set 7⅝-in. csg.

Continental Oil Co. No. 16-B-4 Meyer, C SE SE sec. 4-21-36. T.D. 3,837 ft.; to shoot.

Shell Pet. Corp. No. 2 State "F," C SW NW sec. 6-21-36. Drlg. 3,644 ft.

Humble O. & R. Co. No. 7 Adkins, C SE NW sec. 10-21-36. Drlg. 3,871 ft.

Gulf Oil Corp. No. 3 Janda "C," C SE SW sec. 15-21-36. Drlg. 3,892 ft.

Shell Pet. Corp. No. 2 State "A," NE cor. 12-21-25. Drlg. 3,060 ft.

Jim Murray et al No. 3 Wallace, C SE NW sec. 3-21-36. T.D. 3,875 ft.; testing after acid.

Gulf Oil Corp. No. 2 Orcutt "C," C NE NE sec. 6-21-36. Drlg. 3,620 ft.

Continental Oil Co. No. 4-B-14 Lockhart, sec. 14-21-36. Drlg. 3,740 ft.

Continental Oil o. No. 3-B-18 Meyer, sec. 18-21-36. T.D. 3,945 ft.; flowed 62 bbls. in 10 hrs.; C.O.

Gulf Prod. Co. No. 1-E Bell-State, sec. 11-21-36. T.D. 3,855 ft.; testing.

Gulf Oil Corp. No. 6 Orcutt, C SW NE sec. 6-21-36. Drlg. 3,846 ft.

Texas Pacific Coal & Oil Co. No. 2 State "A," Acct. 2, C NW SW sec. 5-22-36. T.D. 3,827 ft.; est. 20 bbls. daily.

Humble O. & R. Co. No. 6 Staee-Aggies, C SW NE sec. 31-20-37. T.D. 160 ft.; set 10¾-in. csg.

Gulf Oil Corp. No. 1 L. White, C SE SE sec. 25-20-36. Drlg. 1,100 ft.

Gulf Oil Corp. No. 2 Bell-State "D," C SW SW sec. 6-21-36. T.D. 31 ft.; set 15½-in. csg.

Continental Oil Co. No. 6-D-15 State, C NE SE sec. 15-21-36. T.D. 140 ft.; set 7⅝-in. csg.

Sun Oil Co. No. 4 Akens, C NE SW sec. 3-21-36. T.D. 3,860 ft.; testing.

Empire O. & R. Co. No. 2 State "F," C NE SE sec. 30-20-37. T.D. 253 ft.; set 12½-in. csg.

Gulf Oil Corp. No. 4 Orcutt "C," C SE NW sec. 6-21-36. Rig.

Gulf Oil Corp. No. 3 Orcutt "C," C SW NE sec. 6-21-36. Rig.

Amerada Pet. Corp. No. 4 Houston, C SW NE sec. 7-21-36. Rig.

Atlantic Ref. Co. No. 4 State "L," C NW SW sec. 6-21-36. Cellar and pits.

Humble O. & R. Co. No. 7 Knox, C SW NE sec. 10-21-36. Cellar and pits.

Gulf Oil Corp. No. 5 Orcutt "C," C SE SE sec 36-20-36. Loc.

Sims Area

Devonian Oil Co. No. 1 Christmas, NE NE SE sec. 28-22-37. Drlg. 158 ft.

Skelly Oil Co. No. 1 R. R. Simms "C," C SE SW sec. 3-23-37. T.D. 800 ft.; fishing.

Skelly Oil Co. No. 1 H. O. Simms "D," C SE NW sec. 3-23-37. Drlg. 2,155 ft.

Skelly Oil Co. No. 1 W. P. Simms "B," C NW NE sec. 10-23-27. Drlg. 1,075 ft.

Empire O. & R. Co. No. 1 Walden, C SE NW sec. 21-22-37 Drlg. 2,945 ft.

Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,305 ft.; waiting on tools.

Continental Oil Co. No. 1-A-15 Elliott, SE SE SE sec. 15-22-37. Drlg. 3,580 ft.; 2,000 ft. oil in hole.

W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. Drlg. 1,150 ft.

Amon G. Carter No. 1 E. M. Elliott, sec. 22-22-37. Moving in material.

J. E. Farrell No. 1 Walden "C," sec. 15-22-37. Drlg. 1,323 ft.

J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 95 ft.; S.D.

Skelly Oil Co. No. 1 G. W. Sims, sec. 10-23-37. T.D. 3,607 ft.; fishing.

Skelly Oil Co. No. 1 W. P. Sims, sec. 10-23-37. Hole full of oil; cleaning out after shot.

Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. Drlg. 255 ft.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,514 ft.; testing.

Lea County—Miscellaneous

Continental Oil Co. No. 1 J. C. Farney "A," C SW SE sec. 5-23-36. Wildcat; R.U.R.

Plains Prod. Co. No. 3 J. A. E. Knight, C SE SE sec. 21-24-37. Drlg. 925 ft.

Shell Pet. Corp. No. 1 J. F. Black, C NW SE sec. 21-24-37. Drlg. 3,135 ft.

Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. Cellar and pits.

Eppenauer Drlg. Co. No. 1 Stuart, NE NW NE sec. 22-25-27. T.D. 50 ft.; S.D.

Rowan et al No. 1 Mattern, C SW SE sec. 8-22-37. T.D. 3,789 ft.; testing shutoff.

C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. T.D. 4,075 ft.; swabbed 51 bbls. fluid in 49 hrs.

Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 2,526 ft.; S.D.

Argo Royalty Co. No. 1 Lanehart, SW SE NE sec. 21-26-37. T.D. 3,620 ft.; set 7-in. csg.

Stanolind O. & G. Co. No. 1 Langley, sec. 15-25-37. T.D. 3,413 ft.; P.B. to 3,381 ft.; to test.

Leonard No. 3 Lanehart, C NE NW sec. 21-25-37. Moving in material.

C. L. Carlock et al No. 1 Quincy-Ricker, C SE SE sec. 7-16-36. Wildcat; drlg. 2,010 ft.

J. C. Clower No. 1 Turner, C SE SE sec. 29-21-37. T.D. 3,485 ft.; S.D.

Culberson-Irwin & Stovall No. 2 Stuart, NW SE SE sec. 10-25-37. T.D. 3,272 ft.; fishing.

Samedan Oil Co. No. 2 Hughes, C NW SE sec. 4-23-37. Drlg. 218 ft.

Continental Oil Co. No. 1-A-24 Sholes, C SE SE sec. 24-25-36. Drlg. 3,100 ft.

Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; drlg. 1,463 ft.

Baldridge and others No. 1 Blakely, C NW NE sec. 5-20-38. Wildcat; T.D. 2,815 ft.; set 8¼-in. csg.

Rushwold Oil Co. No. 1 Carter, C NW NE sec. 30-20-39. Wildcat; drlg. 508 ft.

Plains Prod. Co. No. 2 J. A. Knight, C NW SW sec. 22-24-37. Drlg. 2,830 ft.

Empire O. & R. Co. No. 1 S. Dabbs, C NW NW sec. 23-25-37. Drlg. 3,150 ft.

Skelly Oil Co. No. 1-A Stuart, SW NE NE NW sec. 15-25-37. T.D. 3,247 ft.; standardizing.

Texas Co. No. 2 Sheppard "A," C SW NW sec. 6-26-37. Drlg. 2,829 ft.
Maxwell, Crandall & Osmond No. 1 Lane-State, C SW NW sec. 32-10-34. Wildcat; T.D. 2,175 ft.; set 10¾-in. csg.
Getty Oil Co. No. 1 Hardy, C SE SE sec. 20-21-37. Drlg. 2,555 ft.
Maljamar O. & G. Co. No. 7 Baish, C SE NW sec. 21-17-32. T.D. 770 ft.; fishing.
Continental Oil Co. No. 1 Rex William "A," C SW SW sec. 27-23-35. Wildcat; R.U.R.
Texas Co. No. 1 Young, SE cor. sec. 5-24-37. Drlg 3,390 ft.
Texas Co. No. 1 Black, C SW NW sec. 21-24-37. Drlg. 1,225 ft.
Magnolia Pet. Co. No. 3 Carson, C SW SW sec. 28-21-37. T.D. 1,377 ft.; set 9⅝-in. csg.
Continental Oil Co. No. 1 Eaves "B," C SW NE sec. 30-36-37. Drlg. 262 ft.
Tide Water Oil Co. No. 1 Coates "B," C NW NW sec. 21-25-37. T.D. 2,907 ft.; testing.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. Rig.
Magnolia Pet. Co. No. 1 State "G," NW NW NE sec. 24-17-34. R.U.R.
Empire O. & R. Co. and Repollo Oil Co. No. 1 Brunson, NW NW SE sec. 4-22-37. Location.
Anderson-Prichard Oil Corp. No. 2 Carlson, C SW NW sec. 21-25-37. Cellar and pits.

Eddy County

Clint Murchison and others No. 1 State "A," C NE SW sec. 16-17-31. Drlg. 600 ft.
Barnsdall Oil Co. No. 4 Dodd, C SE SE sec. 22-17-29. Drlg. 1,890 ft.
Fred Brainard No. 1 Berry, C E½ NW NW sec. 23-17-27. Drlg. 10 ft.
Tignor-Etz & Keys No. 5 Keya "A," C E½ SW SW sec. 10-17-38. Drlg. 720 ft.
Etz Bros. No. 3 State, sec. 16-17-30. Drlg. 3,130 ft.
Hammond et al No. 1 State, SW SE SW sec. 15-27-28. T.D. 1,967 ft.; to shoot.
Republic Prod. Co. No. 6 Russell, SW NE NW sec. 18-17-31. Drlg. 3,535 ft.; hole full of oil.
Flynn, Welch & Yates No. 74 State, C S½ NE SW sec. 27-18-28. T.D. 2,826 ft.; C.O.; est. 23 bbls. daily.
D. & B. Oil Co. No. 2 Berry, NW SE NW sec. 21-17-30. T.D. 3,400 ft.; testing.
William Dooley No. 1 Hatchett, NE SW NE sec. 11-20-26. Wildcat; T.D. 803 ft.; P.B. to 445 ft.; testing.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. Location.
Premier Pet. Co. No. 1 McIntyre "G," NW NW NE sec. 21-17-30. Drlg. 930 ft.

Harding County

Kahay No. 1 Dae Daca, C sec. 19-20n-31e. T.D. 1,702 ft.; S.D.
Clyde B. Neill No. 1 Foster, C NW SW sec. 27-21-30. S.D. 700 ft.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e. T.D. 1,051 ft. in broken lime; S.D.

McKinley County

Claude Walker No. 2 fee, sec. 20-20n-9w. Drlg. at 100 ft.
Dave Stacey No. 1 Tee, C NW sec. 28-20-9w. Drlg. 90 ft.

Roosevelt County

Maxwell, Crandall & Osmond No. 1 Williamson, C NW NW sec. 7-8s-36e. Wildcat; T.D. 860 ft.; S.D. for repairs.
Claudel Development Co. No. 2 Wilmes, C SE NE sec. 17-2s-30e. Wildcat; rig.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. Drlg. 2,712 ft.

Union County

Superior Oil Corp. and Olson Drlg. Co. No. 1 J. H. Zurich, SE SW sec. 2-21-34e. T.D. 2,925 ft.; in granite; S.D.

COLORADO

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66. S.D. 4,368 ft. for 4-in. D.P.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. S.D. 4,267 ft.

Archuleta County

Cortez Oil Co. No. 1-A Crowley, 600 ft. N of S line and 200 ft. E of W line, NE NE sec. 2-32n-2e. Spdg.
Wm. E. Hughes Est. No. 13 Gramps, approx. C N L NW sec. 24-33n-2e. Cmtd. pipe on top Dakota at undisclosed depth and cg. to top of Morrison.
Maryott Drlg. Co. No. 1 Hollywood, SE SE SE sec. 15-34n-1w. S.D. 625 ft.
Oil City Pet. Co. No. 1-A Garrett, NW NE NW sec. 25-33n-2e. S.D. after P.B. from 1,515 ft. to O.S. at 970 ft.
Oil City Pet Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 50 (SW SE SW) sec. 24-33n-2e. Landed 6¼-in. at 1,185 ft.; drlg. ahead.
H. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. S.D. 1,167 ft.
Sharp et al No. 1 Walcott, C S½ SE sec. 34-33n-2e. Drlg. below 200 ft.

Baca County

Paul R. Robb Pet. Corp. No. 1 Lovette, NW NW NW sec. 24-32s-48. S.D. 2,790 ft.

Boulder County

Boulder Prod. Dev. Co. No. 2 Maxwell, NW NW NE sec. 24-1n-71. Drlg. 2,385 ft. Limey sh.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69, O.W.D.D.; drlg. 3,150 ft.; S.G.; object Dakota at 3,900 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. S.D. 2,700 ft.

Kiowa County

Gulf Oil Corp. No. 1 Risser-Union Pacific, C SW NE sec. 1-17s-50w. Bldg. rig.

LaPlata County

Detroit Oil Association No. 1, NW SW sec. 9-35n-12w. Drlg. 3,170 ft.
McGarr Pet. Co. No. 1 Pinon Mesa Land Co., CSL NE NE sec. 34-33n-12w. Cmtd. 6¼-in. at 3,450 ft.; D.D. to 3,680 ft.; S.D.

Larimer County

The Continental Oil Co. No. 8 Buckeye-Union Pacific, which was drilled as a test to the Sundance in the Wellington field, and encountered water in that horizon at a total depth of 4,992 feet, plugged back to 4,480 feet, the base of the Dakota, and after standing over night oil rose to within 10 feet of the top. It is testing. Production in this field comes from the Muddy which lies just above the Dakota. The Muddy at 4,240-60 feet was dry. The Lakota at 4,512-18 feet also was dry. Top of the Dakota was at 4,455 feet.

Continental Oil Co. No. 8 Buckeye-U.P., C NE SW sec. 1-10s-68. T.D. 4,992 ft.; P.B. to 4,524 ft.; redrld. to 4,560 ft.; cmtd. back to base of Dakota at 4,480 ft. with 75 sacks; testing.

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61. Loc.; getting titles in shape.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17s-62. S.D. 2,096 ft.

Moffat County

Prospects for a new oil pool in the Powder Wash district in northern Moffat County, which were reported several weeks ago, were greatly enhanced this week when information was officially released that the Mountain Fuel Supply Co. No. 1 Allen, while cleaning out to test at 5,012-30 feet made a head of 20 bbls. of light oil. Unofficial reports indicated that the well may be a large one and that the oil is high gravity testing 52 degrees. The sand is in the lower Wasatch. It is said to have passed through several sands showing some oil and gas saturation. In September it was reported a well at around 3,400 feet, but drilling to lower horizons to get cores of the entire section was continued. The structure is located 20 miles east of the Hiawatha gas field. The location is half a mile south of the same company's No. 1 Musser, the discovery well, C NE section 5-11-97, which was completed in 1930 in the Upper Wasatch at 2,152 feet for 35,188,000 feet a day with a rock pressure of 685 pounds. A string of pipe is being rushed in from Rock Springs and this will be run and cemented before it will be definitely known what the well will make.

Mountain Fuel Supply Co. No. 1 Allen, NE SW SE sec. 32-12n-97w. C.O. to test at 5,012-30 ft.
Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. T.D. 2,774 ft.; testing.
Morapas Pet. Co. No. 1 Cole, C SW SE sec. 1-3n-92. Rig up; bldg. winter camp.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. T.D. 1,718 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w. S.D. 3,960 ft.

Park County

The South Park Oil Co. has obtained extension of drilling requirements on its No. 1 LeBert, NE NE NW section 21-11s-75, Hartsel district, which is shut down at 705 feet, and will wait until two wells drilling are completed.

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Drlg. 2,400 ft.; 10¾-in. at 2,375 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. T.D. 5,280 ft.; lowering 4½-in. to bottom preliminary to taking core.

Pueblo County

Phillips Pet. Co. No. 1 Andover-Century, NE SW NW sec. 26-18s-65. Drlg. 572 ft. in Niobrara sh.

Routt County

Mid-Colo Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. S.D. 2,910 ft.; renewing leases before drlg. into Sundance.

Washington County

The Indian Territory Illuminating Oil Co. No. 1 Vorce, C NE NE section 28-1s-49, on the Hyde block, joint with the Carter Oil Co. and the Foster Mineral Corp., was abandoned at 7,005 feet in schist. The top of the schist was at 6,939 feet. The formation is described as quartz-biotite schist, cut by pegmatite and aplite dykes. The material is composed of metamorphized sediments. The core at the bottom showed a dip of 25 degrees. The hole went out of sandy Cherokee of Pennsylvanian age directly into the schist.

This is the second of the two deep tests drilled by the Indian Territory company in eastern Colorado. The first was its No. 1 Strangways, C NW SW section 21-2s-43, on the Beecher Island structure in Yuma County. It was abandoned late in September at 5,595 feet, 20 feet in the granite. The two wells are about 40 miles apart almost on a due east-west line. Both encountered the granite much higher than was expected. When the locations were spotted the information was given out that the Arbuckle lime was expected at 7,800 feet in the Vorce well and at 6,500 feet in the Strangways test. The elevation of No. 1 Vorce is 4,372 feet, and of No. 1 Strangways 3,597 feet.

Many theories are being advanced as to the significance of the two failures, but it is generally agreed that more tests will have to be drilled in eastern Colorado before its fate will be definitely known. The area in which the granite may be encountered at a higher elevation than expected is undoubtedly much larger than originally supposed, but whether there is a granite range of mountains running east and west, or whether the trend is to the southwest, cannot be determined by the two tests and whether sedimentary beds capable of producing oil lie around these highs or in basins between ridges will be known only when more exploration is undertaken. The Gulf Oil Corp. test in Kiowa County, to the southwest, now becomes of primary importance in determining the future of the area.

Weld County

Continental Oil Co. No. 2 Briggs, C NE SW sec. 13-6n-61. Drlg. 6,733 ft.; had 5,100 ft. of fluid in the Muddy topped at 6,661 ft.

WYOMING

Albany County

California Co. No. 5 Holst, SE NE SE sec. 13-17n-77. Bldg. dk. (First report. Offset on north to discovery well at Quealy.)
Hal Blakeman No. 1 Chapple, C NE NW sec. 31-21-76. T.D. 1,589 ft.; fshg.
California Co. No. 1 Bath, NW NW SW sec. 4-16n-75. Drlg. 1,492 ft.

Big Horn County

The outcome of the Stock Oil Co. No. 1 Griffin, on the Garland dome, which recovered oil saturated cores in the Embar, will be watched with considerable interest. It topped the Embar at 3,551 feet and showed oil and gas at 3,564-80 feet and gas only at 3,580-90 feet. The black oil fields of the Big Horn Basin do not have gas caps over the pay horizons, with the single exception of the Garland field. Because of this fact there has been considerable leasing of acreage around the flanks of the structure in the belief that oil will be found below the gas on the flanks. The presence of oil in No. 1 Griffin tends to confirm this theory. The well is running about 350 feet lower than No. 1 Allen, 2,000 feet to the northwest, which has been blowing wild since last January, making around 60,000,000 feet of gas a day. The presence of oil in the Embar in the Griffin well is believed to be due to the escaping gas in the Allen well pulling the oil up from the flanks. The Kinney-Coastal Oil Co. No. 3 Government, in section 25-56-98, far to the northwest and farther down structure, had gas in the Embar with some oil in lower horizons. This well, which was believed to be close to the oil-gas line, indicated that the entire Garland dome is filled with oil.

Stock Oil Co. No. 1 Allen, Lot 52, sec. 32-56n-97. T.D. 3,825 ft.; on fire.
Stock Oil Co. No. 1-B Allen, Lot 52, sec. 32-56n-97. Drlg. 1,620 ft.
Ohio Oil Co. No. 1 Wiley, C NE NW sec. 25-56n-97. Drlg. 3,698 ft.
Ohio Oil Co. No. 2 Smith, CWL NE SE sec. 32-56-97. T.D. 3,882 ft.; redrlg. 3,850 ft.
Ohio Oil Co. No. 2 State, NE cor. Lot 38, sec. 36-46n-97. Spdg. 25 ft.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 24-56n-97. Drlg. 2,836 ft.
Peay Oil Co. No. 1 Denio Hr., 43-C, sec. 15-55n-87w. Drlg. 3,930 ft.
Stock Oil Co. No. 1 Griffin, Lot 60, sec. 4-55n-97. Drlg. 3,832 ft.
Peter Evanoff et al No. 1 McAllister, NW NE SE sec. 9-55n-87. S.D. 3,015 ft.; will run 8⅝-in. and go to Madison.

Carbon County

Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78. Drlg. 1,733 ft. in Morrison.
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 19-83w. Cg. 5,060 ft. in Lakota; S.O. on ether cuttings; Dakota at 4,988-5,001 ft. was hard quartzite sd.
Ohio Oil Co. No. 1 Hatfield, NE SE NW sec. 2-19n-83. Recmtg. pipe at 2,000 ft. before testing Dakota at 3,933-50 ft.
Ohio Oil Co. No. 11 Harrison & Cooper, NE SW SW sec. 35-20n-78. Cg. in Sundance topped at 3,182 ft. and showing good sat.
Sinclair-Wyoming Oil Co. No. 10 Govt., SW SE NW sec. 7-26-89w. S.D. 5,583 ft. in r.b. for engine repairs.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. S.D. 3,050 ft.; may install rotary.
Wyoming Southern Oil Co. No. 1 Salisbury, NW NW SE sec. 27-32n-69. Drlg. 420 ft.; S.G. 380 ft.

Campbell County

G. J. Shearin et al No. 1 Rhodes, NE SE SW sec. 21-49n-74. S.D. 191 ft.

Fremont County

C. E. Nelson No. 2 Enos, SW NE SW sec. 27-3n-1w. Drlg. 560 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 2,890 ft.
Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW

sec. 1-33n-92w. T.D. 7,293 ft.; bailed down to 6,800 ft. and S.D. for repairs; 400 ft. oil in hole.

Goshen County

Ohio Oil Co. No. 1 Waggoner, C NE NE sec. 14-28-63w. Drlg. 1,910 ft. in red beds; went out of Tertiary into red beds; no Cretaceous on other intervening sections.

Hot Springs County

Empire State Oil Co. No. 1 Larson, sec. 33-44n-93. Drlg. 1,815 ft.

Laramie County

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13n-68. Drlg. 7,215 ft.; set pipe at 7,100 ft.

Lincoln County

Place Oil Co. No. 36, SE sec. 9-26n-113. Spd. and set 1 ft. of 15½-in. and S.D.; W.O. approval of bond.
Senrab Oil Corp. No. 3 Govt., CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.

Natrona County

Western Producers, Inc., No. 1 Govt., NW SW SE sec. 5-39n-78. Spdg. 50 ft.; set 1 jt. 8⅝-in.; will go to shale horizon in west Salt Creek (first report).

Niobrara County

The Continental Oil Co. No. 2-B Schuricht, a north offset to the Mackinnie Oil & Drilling Co. No. 1 Thompson, NE NW NE section 7-35-65, the most southerly producer in the Lance Creek field, is a near completion. At a total depth of 4,068 feet, 19 feet in the red beds, it swabbed 164 bbls. of oil and 26 bbls. of water from the fourth Sundance at 3,962-4,049 feet. It is plugging back to the third Sundance at 3,823-90 feet.

Argo Oil Co. No. 8 Elliott, C NW SE sec. 5-35n-65. Spdg.
Bay-Elwell No. 1 Joss, CSL SE NW sec. 1-34-66w. Drlg. 506 ft.; 15⅜-in. at 400 ft.
Continental Oil Co. No. 2 Schuricht, SE SW SE sec. 6-35n-65. T.D. 4,068 ft.; testing.
Continental Oil Co. No. 2-A Dielman, NW NE NE sec. 7-35n-65. Drlg. 1,960 ft.
Adams Louisiana Co.-Bay Elwell No. 1 Spaugh, C NW NE sec. 18-35n-65. Drlg. 4,186 ft. in Morrison.
Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65. T.D. 3,591 ft.; fshg. D.P.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Drlg. 970 ft.
J. M. Huber Corp. No. 2 Joss, NE NE SW sec. 6-35n-65. Drlg. 1,818 ft.
Ohio Oil Co. No. 6 Putnam, C NW NW sec. 4-35n-65w. Drlg. 3,395 ft.
Ohio Oil Co. No. 4 Rohlff, C SW NE sec. 32-36n-65w. T.D. 3,370 ft.; repairing crown; top Dakota 3,170 ft.
Riggs Oil Co. No. 2 Spaugh, SE SW SW sec. 32-34n-65w. S.D. 1,092 for winter.
Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61. T.D. 940 ft.; fshg. U.R. lug.

Park County

The Resolute Oil Co. No. 1 State, on the Badger Basin structure, out in the middle of the Big Horn Basin around the rim of which are a number of producing pools, is nearing the point where it will establish a new record depth for the Rocky Mountain area. It is coring in the Frontier at 8,458 feet and showing saturation. It is a half mile southeast of same company's No. 1, NE SW NE section 17-57-101, the discovery well, which holds the depth record and which was completed in 1931 at 8,725 feet for 250 bbls. of 50 gravity oil per day in the Frontier. It is still making 45 bbls. per day and on account of its high gravity, nets the operator around $36,000 a year. The oil is refined and marketed at a local skimming plant. The company's No. 1 State is running about 50 feet higher than the discovery. Manning & Martin, Inc. have the drilling contract.

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. Drlg. 2,516 ft.
Resolute Oil Co. No. 1 State, C NW SW sec. 16-57-101w. Cg. 8,458 ft.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 980 ft.

Sublet County

California Pet. Corp. No. 4-C, SW cor. sec. 34-27n-113w. T.D. 846 ft.; flowing by heads; will start pumping.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55-85. Drlg. 3,200.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Cooper, C NW NE sec. 15-16n-104. Drlg. 535 ft.; cable tools.

Uinta County

Bridger Basin Oil Co. No. 1-B, NW NW SW sec. 10-14n-118. T.D. 1,850 ft.; making W.S.O.
W. D. Marshall No. 1 Govt., NW SW NE sec. 12-15n-118. Drlg. 1,419 ft.

Washakie County

Hidden dome, an old structure on which the Ohio Oil Co. for a number of years produced gas to supply towns in the Big Horn Basin, from the Frontier sands, came to the front this week with three completions and a near completion which may extend the pool for half a mile to the north. The gas pressure declined and the Ohio company abandoned the field. It drilled a test in 1927 in the SW NE SE section 31-48-90 to the Dakota series, in which it found water and abandoned it at 2,790 feet. During the past few years small

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independents have been drilling intermittently, but during the past few months it has received more serious attention.

The Yale Oil Corp. No. 1 Government, SE cor. section 25-48-91, flowed 135 bbls. first day at a total depth of 1,583 feet from the Frontier at 1,531-85 feet.

The Wyoming Oil & Refining Co. No. 4 Government, NW cor. section 31-48-90, made 75 bbls. initial at a total depth of 1,569 feet from the pay at 1,540-58 feet.

Nystrom & Smoot's No. 3 State, NE cor. section 36-48-91, made 106 bbls. initial at a total depth of 1,600 feet from the Frontier at 1,577-1,600 feet.

Calhoun & Jeffries' No. 1 Government, SW NW SW section 30-48-90, topped the first Frontier at 2,128 feet and had a show of oil and no water. It is approximately 500 feet lower than the wells to the south. It set the 6⅝-inch at 2,210 feet and is drilling into the lower horizons.

Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48-91. S.D. 1,132 ft. M.I. heavier machine.
Woods-Callahan Oil Co., Ltd., No. 1 Keye, SE SE NW sec. 25-48n-91. R.U.C.T.
Bruce C. Teeters No. 4 Govt., NW SW NW sec. 31-48n-90w. Drlg. 1,530 ft.
Calhoun & Jeffries No. 1 Govt., SW NW SW sec. 30-48n-90w. Drlg. 2,212 ft.
Christensen & Thorne No. 3 Govt., NW SW SW sec. 31-48n-90w. Drlg. 1,320 ft.

Weston County

John Brophy's No. 1 Lemke, SE SE NE section 10-48-65, Willow Creek, was abandoned at 685 feet. It had water in the Dakota at 470-520 feet. The Lakota at 550-610 feet was dry and had a show of oil with water at 661-85 feet.

In the Osage field H. D. Wiltse No. 10, NE NW NE section 17-46-63, was completed in shale at 350 feet for 20 bbls. on the pump.

Charles Stough's No. 4, CWL SW NW section 4-46-63, was dry and abandoned at 350 feet.

A. E. Jones No. 14, NW SW NE sec. 21-46-63. Drlg. 275 ft. (first report).
H. D. Wiltse No. 11, CWL NE NW sec. 17-46-63. Drlg. 100 ft. (first report).
Conway Oil Corp. No. 1 Govt., C SE NW sec. 7-41n-60w. T.D. 2,700 ft.; P.B. to 2,345 ft. to S.O. bottom wtr.; prep. to acidize.

MONTANA

Big Horn County

One completion was reported in the Hardin gas field (also a first report) in the Holly Development Co. No. 1, C SW SW section 12-1s-33e, which gauged 20,000 feet a day at 798-820 feet.

E. A. Lammers & Son No. 1 Berhold, SE SW NW section 6-1s-33e (cor.), a wildcat test of the Hardin field and which extends the gas area, was completed in sand at 736-50 feet for 125,000 feet a day.

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. Resumed with cable tools; drlg. 3,670 ft.

Cascade County

C. Leonard Smith No. 1 Smith-Schwingle, NE NE SW sec. 14-22n-2e. Saved as wtr. well at 210 ft.; skidded rig 25 ft. north.

Carbon County

The Bailey Round Butte Oil & Gas Co. No. 2, CWL NE SE section 3-8s-23e, in the Blue Creek district, was plugged and abandoned at 790 feet.

East Bridge O. & G. Co. No. 1, CSL SE SE sec. 23-6n-23e. Drlg. 1,300 ft. in Colo. sh.
Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7s-21. Drlg. 5,683 ft. in sh.
Henderson Prod. Co. No. 1-H-11 Elk, 11, SE SE NW sec. 35-9s-23e. S.D. 465 ft.

Fallon County

Montana-Dakota Utilities Co. No. 3 Smith No. 1, Unit 8, C SE NW sec. 8-4n-62e. Drlg. 2,600 ft.
Montana-Dakota Utilities Co. No. 2 Warren No. 1, Unit 5, C SW sec. 23-8n-59e. T.D. 1,532 ft.; cmtd. 16-in. O.D. at 1,470 ft.; drlg. plug.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. S.D. 1,100 ft.; tools still in hole.
Judith Operating Co. No. 2 Govt., NW NE sec. 5-22n-17e. T.D. 3,200 ft.; pulled 6¼-in.; U.R. 8⅝-in. to bot.
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-2s-18e. S.D. 496 ft.; C.D.
Emmons et al No. 3, SE NE NE sec. 6-21n-18e. Drlg. 960 ft.; 15½-in. at 410 ft.; O.S. 880 ft. in sh.

Glacier County

H. R. Patterson No. 1 Chatterton, SE SE NE section 22-32n-6w, 3 miles southwest of the nearest producer in the Cut Bank field, which was completed last month for an estimated production of 20 bbls. a day, did much better on a pumping test and averaged 50 bbls. a day over a 10-day period.

Cut Bank had two completions and two new operations. H. F. Patterson No. 1 Cole, C NE SW section 2-32n-6w, west of production, and between his No. 1 Chatterton and the pool, was drilled to 3,235 feet and plugged back to a gas sand in the Colorado at 2,163-75 feet and completed for 3,000,000 feet of gas. The Sunburst at 3,205-10 feet was dry. The Cut Bank at 3,210-15 feet had only a show of oil. The Ellis was at 3,215 feet.

The Texas Co. No. 5 Tribal-122, CNL SW SW section 5-32n-5w, which was reported a completion last week at 2,932 feet, swabbing 23 bbls. in 24 hours, shot the main pay at 2,918-21 feet with 20 quarts and swabbed 40 bbls. in three hours after shot.

A. B. Cobb No. 2 All.-115, SE NE SE sec. 31-33n-5w. Drlg. 585 ft.; Colo. 440 ft.; 10¾-in. 480 ft.
Drumheller Reservation Synd. No. 1 Tarrant, C SW SW sec. 21-23n-6w. Drlg. 345 ft.
Wm. Hanlon, Agt., No. 1 All.-128, C SE NE sec. 12-32n-6w. Drlg. 715 ft.
L. V. Hole No. 2 All.-124, C NW SE sec. 1-32n-6w. Drlg. 350 ft.
Jack Marshall No. 2 All.-119, C Lot 3, sec. 1-32n-6w. Loc. (first report).
Montana Power Gas Co. No. 3 Simero, C NE SE sec. 6-33n-5w. Drlg. 1,615 ft.
Montana Power Gas Co. No. 1 Schuette, Unit 1, 2,640 ft. E of W line, 500 ft. S of N line, sec. 5-34n-5w. Drlg. 2,190 ft.
Montana Power Gas Co. No. 1 Wallace, C NE SE sec. 5-32n-5w. R.U. (first report).
Nadeau Bros. No. 2 Ewald, C SE NW sec. 9-32n-5w. Drlg. 3,030 ft.
Pardee Drlg. Co. No. 2 Morrison, CEL NE SE sec. 24-33n-6w. Drlg. 190 ft.
R. C. Tarrant No. 7 Getty, SW NW NW sec. 2-34n-6w. T.D. 2,615 ft.; fshg.
R. C. Tarrant No. 3 Reichoff, C NE SE sec. 36-32-6w. Drlg. 2,825 ft.
Vern Johnson No. 1 Tribal-118, C SW SW sec. 1-32n-6w. S.D. 2,900 ft. for 8¼-in.
Texas Co. No. 4 Tribal-121, C NW SE sec. 36-33n-6w. Cmtd. 7-in. at 3,003 ft.; drlg. plug.
Texas Co. No. 6 Tribal-122, C NE SE sec. 6-32n-5w. Drlg. 2,685 ft.
Texas Co. No. 3 Tribal-121, C SE SE sec. 36-33n-6w. Cmtd. 7-in. at 3,015 ft.
Texas Co. No. 7 Tribal-122, 520 ft. S of N line, 461 ft. E of W line, Lot 9, sec. 5-32n-5w. Spdg. 36 ft.
A. E. Wilkinson No. 2 All.-127, C SE NE sec. 1-32n-6w. Drlg. 2,720 ft.
A. E. Wilkinson No. 2 Tribal-126, NW NW NW sec. 7-32n-5w. Drlg. 1,460 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. S.D. 1,300 ft. (cor.).

Liberty County

Western Natural Gas Co. No. 2 Wallace, NW NW SW sec. 15-37n-4e. Drlg. 1,800 ft. (first report).

Musselshell County

Geo. Gregory et al No. 24-A Govt., NW SW NW sec. 25-11n-24e. Drlg. 465 ft. in Quadrant.

Park County

Ben W. Ryan and others have begun drilling on a wildcat in the Mission Creek district, 18 miles northeast of Livingston, for which location was made several months ago.

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2n-11e. Spdg. 200 ft.; 12½-in. at 100 ft. (first report).

Petroleum County

The Homestake Oil Co. No. 25-A, NW NW SW section 10-15n-29e, Cat Creek field, was completed in the second Cat Creek sand at 1,420-37 feet for 12 bbls. per day of oil and 10 bbls. of water.

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. S.D. 260 ft. (cor.) for winter.

Phillips County

Five completions and two new operations were reported in the Bowdoin gas field and a new wildcat is getting under way in the Hartman district.

The completions, all of which also are first reports except No. 1 Garrison, are as follows:

Montana-Dakota Utilities Co. No. 1 Garrison, SW SE SE section 6-31n-34e, total depth 780 feet, gauged 686 feet a day with a pressure of 186 pounds from sand at 670-730 feet.

Montana-Dakota Utilities Co. No. 1 Buffington, C SE SW section 14-31n-34e, completed at 795 feet for 1,900,000 feet from sand at 672-725 feet.

Montana-Dakota Utilities Co. No. 1 Kyle, C NE NW section 15-31n-34e, completed for 700,000 feet in sand at 622-761 feet.

A. W. Robinson No. 1 Bruster, C Lot 1, section 21-32n-34e, completed at 768 feet for 500,000 feet.

Town of Saco No. 2, CSL SE SE section 7-31n-34e, completed at 800 feet for 800,000 feet from sand at 680-730 feet.

R. C. Tarrant No. 1 Hartman, C NW SE sec. 12-24n-25e. T.D. 495 ft.; fshg. (first report).
Montana-Dakota Utilities Co. No. 1 Bell, NW SW NW sec. 8-32n-34e. Drlg. 100 ft. (first report).
City of Malta, No. 1, C SE SE sec. 18-30n-30e. Drlg. 50 ft. (first report).

Pondera County

Clinch Pet., Ltd., No. 1 Holan, NW SW NW sec. 12-23s-6w. S.D. 2,200 ft.
Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. S.D. 2,345 ft.
Kirk Oil Co. No. 1 Kellogg, SE NW NE sec. 31-28n-4w. S.D. 1,400 ft. for repairs.

Sheridan County

Cheyenne O. & G. Co. No. 1 Olson, SE SE SE sec. 14-35n-53e. S.D. 2,615 ft.; 500,000 ft. of gas 1,050 ft. and 500,000 ft. at 1,305 ft.; S.O. with 12½-in.

Toole County

Nepstad, Montgomery & Faragher No. 2 Thompson, C SE SW section 2-35n-3w, in the west end of the Kevin-Sunburst field, which was reported a completion two weeks ago and flowing 250 bbls. the first 24 hours, has proved to be the largest well completed in that field this year. It put 1,270 bbls. into the tank in five days, an average of 254 bbls. a day. After the tank was filled the well was shut in for lack of storage.

Two completions were made the past week. Alexander-Sorrell No. 1 Federal Land Bank, NW NW SW section 32-35n-3w, formerly carried as No. 1 Strange in section 31, was completed at 1,751 feet for 8 to 10 bbls., estimated. Top of pay was at 1,749 feet. The Sunburst was at 1,460-80 feet. It opens several sections southwest of Kevin for prospecting.

Pfabe & Engelking No. 1 Hurley, SW NE NW section 8-34n-2w, made 5 bbls. per day at 1,452 feet before acidizing. It will be treated.

Agen & Goeddertz No. 3 State, NE SW NE sec. 16-35n-3w. T.D. 1,745 ft.; rec. tools and S.D.
B. A. S. Arnold No. 5 Govt., SE NW NW sec. 21-35n-3w. Drlg. 1,000 ft.
Big West Oil Co. No. 4 Dahlquist, NE NE NW sec. 21-35n-3w. Drlg. 1,865 ft.; Ellis-Madison at 1,822 ft. dry.
Carridy et al No. 5 Carlson, CNL SW NE sec. 22-35n-3w. T.D. 1,805 ft.; testing.
A. E. Crumley No. 11 Shaw, SE NW NE sec. 35-36n-2w. Drlg. 1,140 ft.
A. E. Crumley No. 7 Fryberger, CWL SE SE sec. 24-35n-3w. Drlg. 810 ft.; csg. at 770 ft.
C. E. Lee No. 1 Miller, C NE NE sec. 17-34n-3w. Drlg. 725 ft.
Shaver Oil Co. No. 1 Schaffer, SW SE NE sec. 11-34n-2w. R.U.
Welch Bros. No. 2 Larum, SW SW NW sec. 25-35n-3w. Drlg. 1,636 ft.

Yellowstone County

R. C. Tarrant No. 1 Metzger, C SW NW section 8-2s-25e, a wildcat on the Price structure, and a discovery in the Dakota, was drilled to 1,168 feet where it had water and a show of gas in the Lakota at 1,155-68 feet. It was plugged back and completed in the Dakota at 961-1,008 feet for 10,000,000 feet of gas a day.

Same operator's No. 1 Mosser, CWL SW NE section 26-3s-24e, Mosser dome, which showed for 100 bbls. of oil a day in the Dakota at 995-1,060 feet, followd by water, was deepened to 2,560 feet to test the Madison. It had the Ellis-Madison at 2,530 feet. At 2,560 feet it encountered a break in the lime which showed for 20,000 bbls. of warm water per day. It may be saved as a water well.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., et al No. 1 Morgan, C SW SW sec. 39-96n-56w. Drlg. 2,185 ft., granerous sh.

Franklin County

Wm. Steinlee No. 1, SE NE SE sec. 25-1n-15w. Drlg. 310 ft.

Lincoln County

Smith & Wright No. 1 Hansen, sec. 24-15n-30w. Completed W.W.

Michigan Fields

(Continued from Page 58)

New Locations

Eight wildcat locations were revealed in a list of 25 permits issued last week by the conservation department. These were in addition to six locations in Sherman and three in Vernon Township, Isabella County, two of the state's newly opened fields.

The wildcats included: McClanahan Oil Co. No. 1 Robinson, SW SW SW section 31, Grant Township, and Sun Oil Co. No. 1 Campbell, NE SW SW section 12, Hamilton Township, both in Clare County; R. E. Gallagher No. 1 Hayden, NW NE NE section 25, Douglass Township, and Jetter Development Co. No. 1 Eckert, NE NW SW section 12, Bushnell Township, both in Montcalm County; Dow Chemical Co. No. 1 fee, NE SW NW section 27, Midland Township and county, a brine disposal test to be drilled to 4,000 feet or more; M. R. Schermerhorn No. 1 Cain, SE NW SW section 24, Croton Township, Newaygo County; Muskegon Oil Corp. No. 1 Wolting, SE SE NE section 35, Olive Township, Ottawa County, and C. W. Teater No. 1 Keller, NE SW NW section 27, Oliver Township, Huron County test.

North Louisiana, Arkansas

By MITCHELL TUCKER

RODESSA OUTPUT CLIMBING; IMPORTANT WILDCAT SHOWS

SHREVEPORT, La., Nov. 16.—The Rodessa field again reached a new peak for daily production, the last week averaging 75,380 bbls. daily, 56,209 bbls. from the Louisiana side and 19,175 bbls. from the Texas side. Again the Texas wells provided the increase. Activity continues to shift to the Texas side, there now being 70 active rigs on the Texas side and 24 on the Louisiana side of the field.

For the last week, all wells averaged 184 bbls. daily, Texas wells showing an average of 211 bbls. and Louisiana wells 176 bbls. The per well allowable remains at 225 bbls. daily.

The most recent salt water survey completed in the field showed 69 wells making from 1 to 95 per cent salt water. Nine of these are in Texas and 60 on the Louisiana side.

Estimated Daily Production

Estimated daily gross production in the week ending November 14, follows:

NORTH LOUISIANA

	Bbls.
Bellevue	700
Caddo, light	3,870
Caddo, heavy	2,650
Converse	840
Cotton Valley, heavy	275
Cotton Valley, light	585
DeSoto and Red River	1,370
Elm Grove	330
Haynesville	3,140
Holly	[illegible]
Homer	[illegible]
Pleasant Hill	145
Rodessa	56,210
Sarepta-Carterville	450
Sligo	100
Urania	2,725
Zwolle	910
Total North Louisiana	77,020

SOUTH ARKANSAS

Champagnolle	1,975
El Dorado	2,100
Lisbon	290
Miller County	590
Nevada	849
Smackover, light	2,135
Smackover, heavy	17,730
Stephens	595
Urbana	1,560
Total South Arkansas	27,815

Texas side of Rodessa field 19,175 bbls. daily.

Governor Calls Meeting

Governor Leche has called the second meeting of Rodessa Operators Committee in his office on the morning of November 27 for the second hearing on conservation matters in the Rodessa field. Results of the recent bottom-hole pressure survey will be presented and recommendations made for permanent gas-oil ratio restriction order for the Louisiana side of the field. Although it is generally agreed that additional reduction will be made in the allowed ratios, speculation runs high as to its probable extent. A minimum of 3,000 cubic feet per barrel for oil wells, and 6,000 feet per barrel for gas-distillate wells has been suggested as necessary to effect any substantial check of the daily reservoir pressure decline.

Possibility of another producing area in the Rodessa district was made evident this week when Bay Oil Co. No. 1 Parker, G. Crowder Survey, one-quarter mile west of the Louisiana line, began swabbing about 5 bbls. hourly. This well lies 2½ miles north of present production in the field, and about 1 mile north of the previously indicated lateral fault running parallel to the major Rodessa feature, running in the northeast-southwest direction, and cutting slightly south of the SE corner of section 9-16-23 on the Louisiana side. Previous wells near this point have logged the presence of this fault, and Bay Oil Co. No. 1 Parker, and J. Edward Jones No. 1 Sharp, section 4-23-16 (about 2 miles northeast of the Parker test but equidistant north of the lateral fault) were drilled to prove or disprove this possibility.

The Parker well is now bottomed at 6,121 feet, and casing perforated opposite the Hill sand (second producing zone in Rodessa proper) at 6,019-26 feet. Because of low gas pressures, it appears probable that pumping equipment or air lift equipment will be installed here. Tankage is being erected.

The J. Edward Jones No. 1 Sharp is reported to have cored gas and distillate sand in the Hill, topped at 5,819 feet.

Standard Oil Co. of Louisiana has substantially added to its holdings in this vicinity recently.

Idessa Oil Co. No. 1 Sumner, SW corner section 10-23-15, 1 mile west of Ida, La., continues to be of foremost interest to operators on the eastern edge of the field. Total depth is reported at 6,200 feet, while operators prepare to set casing. No announcement has been made of formations or saturation penetrated.

Rodessa Completions

Louisiana Oil Refining Co. No. 4 Ratcliff, NW corner section 16-23-16, flowed 40 bbls. per hour through one-half inch tubing choke, tubing pressure 275 pounds, saturated topped 6,025 feet, total depth 6,045 feet.

Phillips Petroleum Co. No. 4 Cora Woods, SE NW NE section 17-23-15, flowed 1,584 bbls. in 24 hours through one-half inch tubing choke, tubing pressure 450 pounds, casing pressure 500 pounds, saturation 6,070 feet, total depth 6,095 feet.

United Gas No. 25 Rodessa Oil & Land Co., NE NW NE section 22-23-16, flowed 37 bbls. per hour through one-half inch tubing choke, casing pressure 800 pounds, tubing pressure 250 pounds, saturation topped 5,973 feet, total depth 5,997 feet.

American Liberty No. 1 J. Wiley, James Davenport Survey, flowed 568 bbls. in 24 hours through one-quarter inch choke, casing pressure 1000 pounds, tubing pressure 875 pounds, total depth 6,000 feet.

Gulf Oil No. 1 Dawson and others, NE corner Dawson tract, J. H. Rives Survey, flowed 347 bbls. in 24 hours through one-quarter inch tubing choke, casing pressure 2,100 pounds, tubing pressure 1,820 pounds, total depth 6,006 feet.

Showers and Moncrief No. 5 T. H. & Sallie Stallcup, Robert Trammel Survey, flowed 25 bbls. per hour through five-sixteenth inch tubing choke, casing pressure 500 pounds, tubing pressure 350 pounds, saturation 5,972 feet, total depth 5,994 feet.

United Production Co. No. 7 J. T. Stewart, John Collom Survey, flowed 27 bbls. per hour through one-half inch tubing choke, casing pressure 675 pounds, tubing pressure 273 pounds, saturation topped 6,028 feet, total depth 6,050 feet.

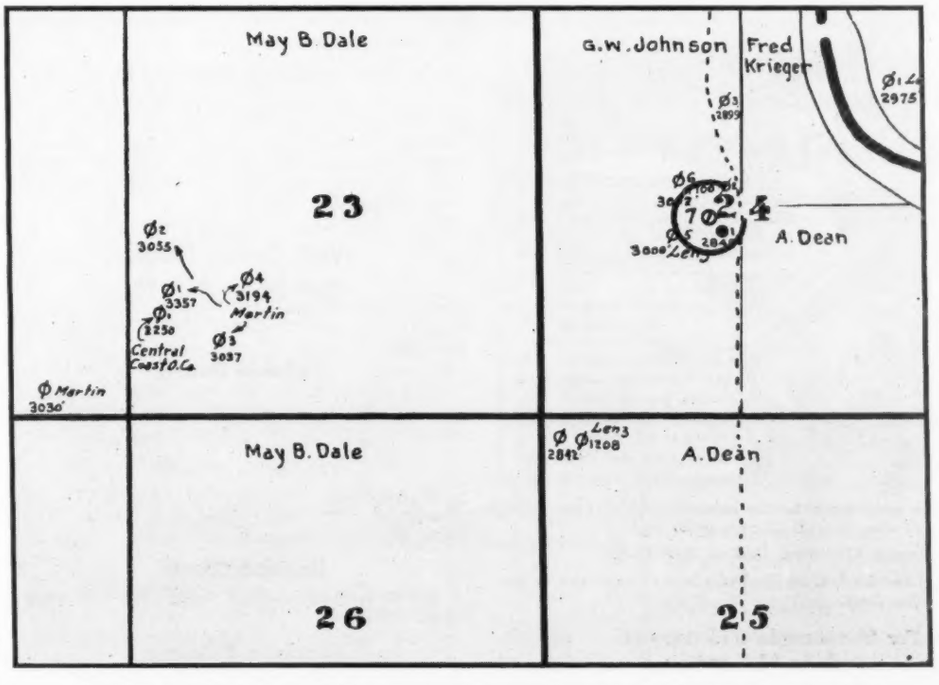
Bossier Parish

United Gas No. 1 Ross, SW corner section 23-17-12, near the western edge of the Sligo gas field, and 1½ miles due north of the recent oil discovery well, has drilled the Pettitt sand 5,108 feet to 5,210 feet but encountered gas saturation only. The well was completed this week, gauging 12,240,000 feet.

Caddo Parish

Prairie River Syndicate No. 1 Hutchinson, SW NW section 15-15-12, closely watched test at Caspania, has been temporarily shut down at a depth of 7,377 feet while a recent geophysical survey of the area is being interpreted.

A deep Lower Trinity test for the old Pine Island field is reported to be under consideration



Location of C. V. Lenz No. 7 Dale, section 24-15-26, Miller County, Arkansas, about 4 miles north of old Garland field, appearing as possible pool opener after coring 5 feet of oil-saturated sand 4,210-4,215½ feet.—(Globe Map Co., Shreveport)

by Stanolind Oil & Gas Co. This company has been completing shallow wells on their Dillon Heirs lease, centering in section 14-21-15, for the last few months, and upon completion of the present program, the deep test is expected to be made. About 1 miles east of this lease a test was drilled about 10 years to a depth of 6,351 feet, where sand and favorable gas showings were encountered.

W. J. Hunter and others of Shreveport are expected to make location for deep test on his 7,200-acre block centering in section 22-16-15 soon.

Claiborne Parish

In T. T. Oakes No. 1 H. W. Patton, deep test of the Sugar Creek gas field, drill stem test at 5,009-5,115 feet logged a good showing of gas, and continues drilling below this depth. Similar showing was recorded in the drilling of No. 2 Durrett by United Gas and others in SW corner of section 31-20-5, but passed up and drilling continued to a depth of 8,616 feet, where operators have been fishing for stuck drill pipe for the last 60 days.

Location for a 6,100-foot wildcat test of the Travis Peak beds has been announced by H. D. Easton and others of Shreveport on the C. O. Ferguson lands, in section 29-22n-6w. 7 miles northeast of shallow production in the Homer field, 10 miles southeast of the Haynesville field, 14 miles northwest of the Sugar Creek field, now producing from the Lower Glen Rose and Travis Peak. A block of 10,000 acres has been assembled for the account of Max Hirsch and others of Cincinnati, Ohio. H. D. Easton, geologist, selected the location and will be in charge of the drilling.

Red River Parish

W. J. Hunter and others No. 1 Long Bell Lumber Co., NE NE section 19-13-9, tested salt water after plugging back to 3,696 feet and drilling out plug to 3,708 feet. Total depth 3,734 feet, well is now standing for orders. Sand cored at 3,706-19 feet was originally reported to carry considerable oil saturation, but after setting casing and testing, salt water became prominent.

Sabine Parish

F. G. Cox and others No. 1 Whitney Corp., NW NE section 8-9-13, Glen Rose test of old Converse structure, again blew out when cement plug was drilled following the setting of 7-inch casing. Previously the gas and distillate showing was estimated at 50,000,000 feet. Blowout preventer was closed in and operators are now adding additional gates in preparation to continue operations. Total depth is 5,503 feet in Oolitic lime of Lower Glen Rose. This test is regarded as North Louisiana's most probable field opener at the present time.

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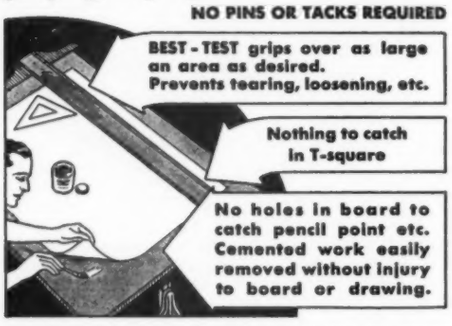
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M. C. Forsman No. 1 Patrick, shallow test in the Converse pool, SW cor. section 21-9-13, has been plugged and abandoned after pumping test proved location to be dry.

ARKANSAS

Columbia County

Muford & Co. No. 1 Kendrick, NW SE section 7-19-18, has encountered a red sand series at 5,417 feet in the Travis Peak. Drilling has been suspended at this depth while Schlumberger test is made. Structure has been definitely indicated by this test and several porous zones of the Travis Peak have been penetrated thus far, without noting saturation.

Miller County

Appearing to be a possible pool opener, C. V. Lenz No. 7 Dale, in the center of section 24-15-26, has cored an attractive oil and gas sand at 4,210-15½ feet (total depth), and on drill-stem test reported nine joints of 52-gravity distillate oil with some gas. The sand at this depth tested 18.5 per cent porosity and has been tentatively correlated with the Hill or corresponding sands below the massive anhydrite section.

Nevada County

Benedum-Trees Oil Co. added a new pool to the list of producing reservoirs in southern Arkansas by the completion of No. 1 Groves, C N half SE NW section 10-14-20. On initial pumping test the well made 19 bbls. oil and 13 bbls. of salt water per hour from sand at 2,178-90 feet.

Two offsets were immediately staked, one to the west and one to the south. Derricks are being completed at each new locaiton.

Union County

Another ecellent producer and a new producing horizon was indicated following drill-stem test taken at S. H. A. Oil Co. No. 2 Gregory, section 10-17-14, Union County. Originally this well was completed in the Taylor sand at 3,361 feet in March, 1935, pumping 265 bbls. daily on initial test. After being deepened to present depth of 3,438 feet, drill-stem test indicated a possible 500-bbl. producer, and operators are preparing to set casing. If a new producing zone is found here it will be the sixth of a series of lenticular sands uncovered at Rainbow.

EAST TEXAS (Border Counties)

Panola County

Logansport Oil Co. (Siler & Riley) treated their No. 1 Rushing, in Panola County north of the Shelby County line, with 1,000 gallons of acid in an effort to bring well on production. Total depth is 2,734 feet in chalk. Well is now standing for chemical reaction.

Shelby County

Archie H. Carpenter No. 1 T. E. Green, located in NE cor. J. English Survey, one-fourth mile north of Shelbyville, topped the chalk at 2,950 feet and drilled to a total depth of 3,397 feet, where only salt water was encountered. The well has been plugged and abandoned.

West Texas Fields

(Continued from Page 64)

feet, 2 bbls. oil and 1,380,000 feet of gas. Southwest Gas Co. No. 1 McGinnis, 2,800 feet, 500,000 feet gas.

Callahan County

Canyon Oil & Gas Co., Inc., No. 1 Breeding, dry and abandoned, 2,140 feet. H. Hughes and others No. 1 Irwin, dry and abandoned, 4,552 feet.

Coleman County

A. Adkisson, Trustee, No. 4 Pfluger, dry and abandoned, 1,520 feet. Elrod and others No. 7 Haas, dry and abandoned, 1,525 feet.

Eastland County

Atkins & Flowers No. 1 White, dry and abandoned 3,577 feet.

Shackelford County

White & Duncan No. 5 Morris and Buie, dry and abandoned, 1,772 feet. Baker & Parude No. 1 Davis, 1,392-96 feet, 25 bbls.; No. 2 Davis, 1,381-83 feet, 67 bbls. oil and 2 bbls. water. W. E. Butler No. 5 Morris and Buie, 1,548-66 feet, 264 bbls.; No. 6 Morris and Buie, 1,592 feet, 185 bbls. A. Cohen No. 4 Baker, 1,605-86 feet, 10 bbls. Crawford and others No. 3 Morris and Buie, 1,568 feet, 255 bbls. De LaFoss and others No. 1 Davis, dry and abandoned, 607½ feet. D. H. Dorn No. 1 Green, dry and abandoned, 1,372 feet. F. L. Elliott No. 1 Blank, dry and abandoned, 795 feet. Evans and others No. 2 Morris and Buie, 1,579-98 feet, plugged back to 1,587 feet, shot, 10 bbls. Fain & McGaha Corp. No. 1 Davis, dry and abandoned, 1,791 feet. R. F. Gilman No. 6 Herron, 897 feet, plugged back to 890 feet, shot, 8 bbls. Graham Production Co. No. 1 Green, dry and abandoned, 1,715 feet. Groover and others No. 2 Nail, dry and abandoned, 1,610 feet; No. 2 Newell, 1,460 feet, 840,000 feet gas.

J. L. Hart No. 1 Rogers, dry and abandoned, 723 feet; No. 2 Rogers, dry and abandoned, 315 feet; No. 3 Rogers, dry and abandoned, 423 feet. A. Hansley and others No. 4 Reynolds Cattle Co., 930½ feet, 6 bbls. Humble Oil & Refining Co. No. 1-D Nail, dry and abandoned, 1,518 feet. Kleiner and others No. 1 Dawson and others, dry and abandoned, 1,770 feet. Merrick & Lamb No. 1-C Matthews, dry and abandoned, 1,176 feet. Petroleum Producers Co. No. 1 Davis, dry and abandoned, 1,870 feet. Roeser & Pendleton and others No. 30 Morris and Buie, 1,607 feet, 35 bbls. Root & Rhodes No. 3 Dawson and others, dry and abandoned, 1,340 feet. Sandefer & Thompson No. 2-A Alexander, 1,647-69 feet, 35 bbls. Shanock and others No. 1 Elliott, 772 feet, 8 bbls. Ungren & Frazier No. 1 Alexander, 1,653 feet, shot, 190 bbls. Warren & Matthews No. 1 Matthews, dry and abandoned, 941 feet. Weona Oil Co. No. 9-B McCasland, 786 feet, 5 bbls. West Texas Oil Production Co. No. 9 Morris and Buie, 1,611 feet, 180 bbls.

Palo Pinto County

Palo Pinto Oil Corp. No. 16 Strawn Coal Co., 3,320 feet, 152,000 feet gas.

Stephens County

K. R. March No. 1 Lee, dry and abandoned 3,225 feet, elevation 1,342 feet.

Throckmorton County

C. H. Tedford and others No. 1 Eaton, 396 feet, plugged back to 389 feet, shot, 6 bbls.; No. 2 Eaton, 394 feet, shot, 10 bbls.

PANHANDLE COMPLETIONS

Gray County

Empire Gas & Fuel Co. No. 3 Jackson, 3,184-3,266 feet, shot, 451 bbls. on pump. Kewanee Oil & Gas Co. No. 10 Arnold, 3,170-3,261 feet, shot, 808 bbls. on pump; No. 8 Morgan, 3,166-3,266 feet, shot, 684 bbls. on pump; No. 9-A Morse, 2,528-2,628 feet, shot, 310 bbls. on pump. King Oil Co. No. 5 North Volmert, 3,214-79 feet, shot, 495 bbls. on pump.

Hutchinson County

Gulf Oil Corp. No. 63 Dial, 3,015-92 feet, shot, 358 bbls. on pump. Phillips Petroleum Co. No. 1 Garland-Sanford, 2,430-2,753 feet, plugged back to 2,642 feet, 8,470,000 feet gas; No. 8 Perkins, 3,030-3,121 feet, shot, 429 bbls. on pump. Turman and Plains Petroleum Co. No. 7 Whittenburg, 2,904-43 feet, shot, 809 bbls. on pump.

Moore County

Shamrock Oil & Gas Co. No. 1 Brumley-Gulf, 3,557 feet, plugged back to 3,447 feet, acidized, 100,000,000 feet gas. Texoma Natural Gas Co. No. 2-G Brown, 2,540-3,133 feet, 12,920,000 feet gas.

Wheeler County

Palmer and others No. 2 Kinkey, 1,795-1,980 feet, 8,900,000 feet gas; No. 1 Nelson, 2,065-2,280 feet, 55,900,000 feet gas.

CENTRAL TEXAS COMPLETIONS

Coleman County

Jack Burleson and others No. 1 Ray, total depth 2,135 feet, dry and abandoned.

Shackelford County

Owens-Green and others No. 1 Merrick Davis, 1,732 feet, dry and abandoned. Pitzer-West and others No. 3 DeLafosse, top Ellenberger 4,378 feet, total depth 4,410 feet, dry and abandoned. Putnam Supply Co. No. 9 Morris, 1,595-1,606 feet, total

depth 1,607 feet, 120 bbls. Westexas Oil & Refining Co. No. 9 Morris, sand 1,596-1,611 feet, 273 bbls.

NORTH TEXAS COMPLETIONS

Archer County

C. Gibson and others No. 1 John O'Donohoe, 1,614 feet, dry. Huggins Oil Co. No. 1 Wilmut, 1,802 feet, dry. Kimble & Bohner No. 13 Carpenter, 1,050-58 feet, 70 bbls. White & Duncan No. 1 Inman, 785 feet, dry.

Clay County

Metzner and others No. 12 Thornberry, 340-50 feet, 10 bbls.

Cooke County

Denver Producing & Refining Co. No. 8 Ed Wilson, 1,975-99 feet, 225 bbls.

Jack County

Gwynn & Overby No. 2 Lowe WB, 2,922-95 feet, 400 bbls. Humphrey and others No. 4 Rankin, 2,940-80 feet, 500 bbls.

Montague County

Bourland and others No. 1 Crownover, 1,609 feet, dry. F. H. E. Oil Co. No. 4 Lauderback, 1,238-50 feet, 25 bbls. Lesh & McCall No. 11 Cunningham A, 908-40 feet, 30 bbls. J. M. Seeds No. 1 Combs, 2,514 feet, dry.

Wichita County

Carl B. Bailey No. 33 Munger, 1,100 feet, dry. Brashear and others No. 3 Waggoner, 2,202 feet, dry. C. B. Christie No. 4 Hodges, 1,740-48 feet, 50 bbls. Culbertson Co. No. 79 Waggoner, 1,609 feet, dry. George Proctor No. 1 Ed Foster, 1,425 feet, dry. A. M. Rowe No. 8 Waggoner, 1,308-20 feet, 100 bbls.

Wilbarger County

Waggoner Refining Co. No. 1 Waggoner CC, 1,095-1,106 feet, 40 bbls.

Young County

Benson and others No. 1 fee, 965 feet, dry. Bohner & Gilmore No. 3 Prideaux A, 561-75 feet, 150 bbls. Brazos River Oil Co. No. 1 State Lands, 3,939-50 feet, 1,000 bbls. Cable and others No. 1 Prideaux, 645 feet, dry. C. B. Collard No. 2 Calvin, 638 feet, dry. J. W. Cox No. 2 Lowe, 676 feet, dry. N. D. Goldsmith No. 4 Beardon A, 1,083-95 feet, 40 bbls. G. E. Grininger No. 5 Prideaux, 716-40 feet, 200 bbls. B. N. Honea No. 16 fee, 952 feet, dry. J. H. Kleiner No. 16 Graham, 655-65 feet, 60 bbls. J. Latson No. 4 Barrett, 575-87 feet, 15 bbls. L. A. Long No. 2 Jeffery, 3,988-3,999 feet, 1,800 bbls. Nash & Windfohr No. 22 Graham, 2,598-2,615 feet, 200 bbls. A. C. Parks No. 1 J. W. Bishop, 700 feet, dry. E. C. Reed No. 2 Cunningham A, 511 feet, dry. O. L. Swanson No. 12 W. F. Bailey, 853-70 feet, 10 bbls. Underwood and others No. 25 Campbell, 1,010 feet, dry; No. 26, 997 feet, dry. Worth Oil Co. No. 1 Welf, 798 feet, dry.

Oklahoma Fields

(Continued from Page 66)

chine for No. 2 Hemminger, NE NW NW section 10-13-16, the only new operation reported in Muskogee County.

Murray County

J. Ben Russell No. 1 fee, SE SE NW SE section 9-2s-3e, wildcat south of Sulphur, the only new Murray County work, was rigging machine.

Cleveland County

Sinclair Prairie Oil Co. and others No. 2 Marvel, Community 36, NW NW NE section 21-10-2w, Moore area, Cleveland County, was a location.

Anderson-Prichard Oil Co. No. 1 State, SW SW SE section 16-10-2w, flowed 1,107 bbls. of oil in 20 hours, and was averaging 31 bbls. of oil per hour with 11,250,000 feet of gas, but was not completed. It was bottomed at 7,254½ feet.

Carter Oil Co. decided to test possible production horizons and was setting casing at No. 1 Walker, SW NE SW section 27-10-2w. Top of Wilcox sand at 7,295 feet; total depth, 7,302 feet. Cores were saturated with sand, but the last foot showed green shale. A Schlumberger test indicated oil in Dolomite and Upper Simpson horizons. It is one-fourth mile south of gusher production at Moore.

Pittsburg County

Utilities Production Corp. No. 2 Bascom, NW SE SE section 10-7-18, Quinton area, Pittsburg County, an old well, was deepened from 1,849 feet, where it produced 9,100,000 feet of gas, to 1,861 feet, and produced 14,000,000 feet of gas. It was not completed.

Marshall County

Levelle Coal Co. No. 9 Brent, NE SW NE SE section 1-8s-5, Marshall County, had sand at 530-33 feet; total depth, 536 feet, and produced 20 bbls. of oil in 24 hours, completed.

Southwestern Oklahoma

Gulf Oil Corp. No. 2 Southern, SE cor. section 31-1n-19w, in the Tipton pool, Jackson County, topped Arbuckle lime at 2,643 feet; had pay at 2,652-55 feet, total depth, and pumped 61 bbls. of oil and 20 bbls. of water in 24 hours, completed.

Two small wells were completed in Stephens County. George R. Pace and others No. 11 Payne, NE NW NW section 28-2s-7w, had sand at 1,683-91 feet; total depth, 1,696 feet, and pumped 65 bbls. of oil in 24 hours. Raizen Brothers No. 6 Price, NW SE SW section 10-3s-5w, pumped 32 bbls. of oil in 24 hours from sand at 1,440-61 feet, total depth.

O. P. Burnham No. 3 Guyrman, NE SW SW SW section 14-1n-20w, the only new operation in Jackson County, was cellar and pits.

In Jefferson County, A. T. Campbell No. 1 J. R. Trout, SE NE NE section 6-8s-7w, wildcat near the Red River, had a junked hole and was abandoned at 2,202 feet, total depth.

Two failures were recorded in Kiowa County. J. M. Young No. 1 J. M. Cooke, NE NE NW section 33-2n-16w, wildcat, was abandoned at 677 feet, total depth. George Ferris No. 1 Pfenning, NE cor. section 6-6-16w, was dry and abandoned at 353 feet, total depth.

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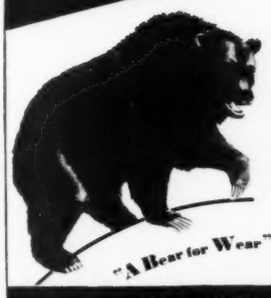

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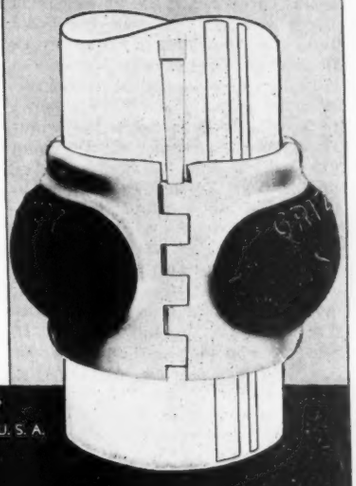

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Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Nov. 16.—The interest of operators in the Central West fields was divided by several important developments this past week. The first and most interesting of these features was the completion of a wildcat test, by local operators, on the Fred Jarrett farm, a few miles east of Olena, in Huron County, northern Ohio. This test was drilled into a limestone formation at a depth of 860 feet where it is making in excess of 6,000,000 feet of gas a day, and is without doubt the largest gasser completed in the Ohio fields in many months. Although the exact formation in which pay was struck in this test was not made known, but from logs of wells drilled in this district many years ago it is believed to have been completed in the Lower Helderberg limestone of Devonian age, which has in previous tests proven dry. Further exploration in that area is assured by this gasser.

A new wave of excitement is apparent in the new Wauseon field, in Fulton County, northwestern Ohio, where the initial steps toward development are in progress. The Stevens Gas & Oil Co., organized by N. L. Stevens, who pioneered in exploring this field, has started operations on the first of a series of wells to be drilled in section 13, German Township, and is planning extensive work throughout Fulton County. The first of these wells is being drilled on the Enos Roth farm, a short distance from the discovery well on this property, and is scheduled for the Trenton sand. The discovery well was put on a pump last week and is reported to be making 25 bbls. a day. Other operators in the district have been marking time until the value of this test was established, and now that it has proven the presence of oil in paying quantities, extensive operations will be underway in the near future.

LIMA FIELD

A new drilling program is under way in Wyandot County, in the Lima field, as a result of the completion of the largest oil producer in this field for some time. The Upper Sandusky Oil & Gas Co. completed this well on the H. & H. Saltsman property, in section 28, Crane Township, where it was drilled through the Trenton at 1,308-32 feet and made 60 bbls. of oil and gauged 400,000 feet of gas the first 24 hours after a shot. In section 3, same township, Cherokee Gas Co. No. 1, Smalley farm, was completed in the same sand at 1,387-1,427 feet and made 2 bbls. of oil and a small show of gas.

In Putnam County, section 27, Blanchard Township, C. K. Rodgers No. 1 H. Labe was also completed in the Trenton sand, where it made 3 bbls. of oil and 5,000 feet of gas after a shot.

The Forest Gas Co. completed its second test on the John Stevens property in section 24, Jackson Township, Hancock County, which was a small gas well. It was drilled through the Trenton sand at 1,247-1,355 feet and made 50,000 feet of gas the first 24 hours after a shot. In section 34, Pleasant Township, Brown & Co. are spudding on the Vansickle farm and on the C. G. Hammond farm in the same section. In section 22, L. O'Conner is down 250 feet on the M. R. Rader lease.

In Logan County, McArthur Township, Huntsville Oil & Gas Co. has moved a rig on location for a test on the S. A. Buckingham property.

CENTRAL OHIO FIELD

In spite of a decline in completions in the Central Ohio field this past week, field operations continue to increase and 18 new locations were reported during the past seven days. The majority of wells completed in the Central Ohio district are drilled for gas, and 10 of the 11 completions reported were gas wells.

The only oil producer completed in this district was Hulse-Kuntz, Inc., No. 1 J. W. Mosholder, in section 8, Perry Township, Coshocton County, which was drilled through the Clinton sand at 3,096-3,154 feet and produced 60 bbls. the first 24 hours after a shot. In section 17 the same operators are down 700 feet on the No. 4 R. L. McKee. In Newcastle Township, section 17, H. E. Perkins is rigged up for No. 4 on the Mame Ringwalt property.

The East Ohio Gas Co. completed the second commercial gas well on the Amanda Smith farm, in section 4, Jackson Township, Stark County. It was completed below the Clinton sand at 4,280-4,311 feet and gauged 3,465,000 feet of gas naturally and has a rock pressure of 1,025 pounds. The Ohio Fuel Gas Co. also completed a commercial gas well in the same sand on the Irene Lingle property, in the same section. In Plain Township, section 15, Brendal Producing Co. has moved a rig on location on the C. Reichenbaugh farm. In the same section, Lyons & Co. is down 4,000 feet on the Hiram Shaub farm and East Ohio Gas Co. is down 3,200 feet on the John and B. Fohl lease in section 10.

In Lorain County, section 11, Avon Township, William Dempsey No. 1 Melvin Barrows was drilled through the Clinton at 2,309-18 feet and gauged 1,110,000 feet of gas naturally and had a rock pressure of 520 pounds. In Lot 84, Grafton Township, Wittmer Oil & Gas Co. has staked a location for a test on the H. W. Ingersoll farm. Snyder & Wyles is down 1,300 feet on the Charles Fletcher property in Lot 62, Columbia Township, and in section 21, Carlisle Township, Ohio Fuel Gas Co. is moving a rig on the John Solet location.

Ohio Fuel Gas Co. completed a commercial gas well on the Matilda Fleck property, in Lot 54, Montviedo Township, Medina County, in the Clinton sand at 3,470-88 feet. The same operators are spudding on the Swastika farms, in section 25, Guilford Township, and are also spudding on the Hungarian Church property in section 23.

Ohio Fuel Gas Co. completed a gas well on the J. W. Mutchler farm in section 2, Hanover Township, Ashland County. First Clinton sand lay at 2,828-32 feet and second Clinton at 2,856-63 feet with considerable gas in both zones. The same operators are down 250 feet on the W. W. Strang farm and are building a rig on the H. Hefelfinger property, in section 13, same township. The Ohio Fuel Gas Co. has staked location on the S. E. Thudium farm in section 1, Clear Creek Township, and on the J. W. Kline farm in section 22, Jackson Township.

In Summit County, section 36, Franklin Township, East Ohio Gas Co. staked a location on the E. L. Razor property. In section 19, Green Township, same operators are completing No. 2 on the A. and M. Wise farm.

In Richland County, section 27, Worthington Township, Ohio Fuel Gas Co. made a location on the W. G. Waddell farm, and in section 20 was drilling at 1,900 feet on the Minerva Ward property.

(Continued on Page 91)

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Nov. 14.—North and east of the Turner Valley field, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, on the New Valley structure has a third oil showing between 6,657 and 6,670 feet. The showing is 38 Beaume crude, apparently from cardium sandstone. Similar crude was met at 6,230 and 6,530 feet. Following the third strike crude rose 100 feet in the hole. The crew is deepening, carrying 6-inch casing behind the tools, and running three tours. The well, started some years ago by the New Valley Oil Co. of Calgary, is being completed by the McLeod Oil Co. for a stock consideration, cable tools being used. Since the first showings were encountered, considerable filing has been done on adjacent territory.

Farther south, on the Aldersyde structure, Ranchmen's Gas and Oil Co. No. 1, LSD 16, section 13-20-29w4, is below 6,950 feet, in a new formation with increased oil showings. The test is logging satisfactorily, with the lower formations thinning out considerably.

Farther south and west, in the High River area, Area Development Corp. No. 1, NW section 24-18-1w5, is below 7,522 feet. It was originally estimated from geophysical surveys that a possible production horizon might be encountered at 7,500 feet but the test is now expected to go between 8,300 and 8,500 feet. Royalite Oil Co. is handling the drilling.

Tests in Deep Lime

On the west side of the Turner Valley structure, Renfrow Royalties No. 1 Morris & Goodfellow, LSD 3, section 28-18-2w5, is below 6,445 feet. 440 feet in the lime, with a wet gas flow estimated around 12,000,000 feet a day, and potential recovery between 160 and 200 bbls. of distillate a day. It is being deepened to a lower porous zone. Samples indicate that the naphtha is very close to a light green crude. Separators and tankage have been installed to handle production.

Sovereign Royalties No. 1 Myers & Wright, LSD 14, section 21-18-2w5, is below 6,073 feet, 281 feet in the lime, and working in a very hard formation. The log shows a porous horizon from 5,910 to 5,940 feet and a second horizon from 5,950 to 6,030 feet.

In the southwest corner of the same section, Foundation Petroleums No. 1, LSD 5, is below 6,291 feet, 273 feet in the Madison, with increasing showings of oil and gas. It looks like a fair commercial producer, but may be deepened another 200 feet. The Royalite Oil Co. pipe line has been extended to the well and separator and tanks erected to handle production. Production at this point will prove the field for a distance of 1⅜ miles south of Turner Valley Royalties No. 1 crude producer.

West Side Tests

On the west side of the Turner Valley structure, Dalhousie Oil Co. No. 8, LSD 6, section 30-19-2w5, is below 2,857 feet. Farther south, in section 33-18-2w5, Sterling-Pacific No. 3, LSD 13, is close to the Madison limestone at 6,199 feet. Sterling Pacific No. 4, LSD 4, same section, is below 4,134 feet.

In section 28-18-2w5, B.&B. Co. No. 1, LSD 12, is below 4,525 feet. Central Royalties No. 1 Sunburst-Mid Royal, LSD 14, same section, is below 2,600 feet. Richfield Royalties No. 1, LSD 5, same section, is rigged and will resume from 4,010 feet as soon as the crews from Renfrew Royalties No. 1 are available.

In section 21-18-2w5, Newfold Royalties No. 1, LSD 11, is below 2,707 feet. West Side Royalties No. 1, LSD 3, same section, is below 3,773 feet.

Globe Royalties, Ltd., of Calgary, is

(Continued on Page 102)

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Shell Oil Co., No. 19 Capitan, Santa Barbara Co.	32- 5-30	1,788	flw. 490 b.d.
General Pet. Corp., No. 20 Capitan, Santa Barbara Co.	32- 5-30	1,552	pmp. 340 b.d.
General Pet. Corp., No. 21 Capitan, Santa Barbara Co.	32- 5-30	1,095	sd. sh. drlg.
Associated Oil Co., No. 1 Capitan, Santa Barbara Co.	2- 4-30	971	sd. sh. drlg.
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara	15- 4-29	6,492	P.B. 2,124
Signal Oil Co., No. 8 Elwood, Santa Barbara Co.	tideland	3,853	sd. sh. drlg.
Bush Oil Co., No. 3 Santa Maria, Santa Barbara Co.	30-10-33	3,754	hd. sh. drlg.
Field Gasoline Corp., No. 1 Santa Maria, Santa Barba.	21- 9-33	4,676	sd. sh. drlg.
Apache Oil Co., No. 1 Santa Maria, Santa Barbara Co.	31- 9-33	4,794	hd. sh. drlg.
Macrate, A. N., No. 1 Santa Maria, Santa Barbara Co.	23-10-34	2,554	sd. sh. drlg.
Echo Oil Co., No. 1 Santa Maria, Santa Barbara Co.	23-10-34	1,573	sd. sh. drlg.
Union Oil Co., No. 11 Santa Maria, Santa Barbara Co.	25-10-34	2,670	sd. sh. drlg.
Union Oil Co., No. 12 Orcutt, Santa Barbara Co.	26- 9-34	3,558	br. sh. drlg.
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	26- 9-34	3,175	br. sh. drlg.
Todos Santos Oil Co., No. 1 Casmalia, Santa Barbara	29- 9-34	2,364	cmtd. 1,650
Barnsdall Oil Co., No. 2 Los Alamos, Santa Barbara	9- 8-32	1,776	sd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co.	25-10-35	7,963	gr. sh. drlg.
Top Row Oil Co., No. 1 Lompoc, Santa Barbara Co.	10- 6-35	1,332	hd. sh. drlg.
Rio Grande Oil Co., No. 6 Mesa, Santa Barbara Co.	28- 4-27	2,094	cleaning out
Dietzman, J., No. 1 Carpenteria, Santa Barbara Co.	8- 4-25	1,025	resume work
Calkan Pet. Co., No. 1 Sespe, Ventura Co.	23- 5-20	493	cmtd. 455
Union Oil Co., No. 10 Bardsdale, Ventura Co.	12- 3-20	6,561	pmp. 90 b.d.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	270	**cleaning out**
Petroleum Securities, No. 4 Shiells, Ventura Co.	3- 3-19	998	hd. sh. drlg.
Texas Co., No. 131 Shiells, Ventura Co.	4- 3-19	4,213	flw. 190 b.d.
El Rancho Oil Co., No. 1 Sespe, Ventura Co.	9- 3-19	4,990	fish. tbg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,380	sd. sh. drlg.
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	2,205	cleaning out
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	1,020	reaming
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co.	6- 4-18	2,772	rig. to pmp.
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	3,339	will deepen
Pacific Western Oil Co., No. 6 Temescal, Ventura Co.	3- 4-18	2,365	O.S. drlg.
Sunset Oil Co., No. 1 Temescal, Ventura Co.	21- 4-18	3,176	suspended
Associated Oil Co., No. 1 Wiley Canyon, Ventura Co.	6- 3-18	1,530	rd. sh. drlg.
Rennie Brothers, No. 1 Santa Paula, Ventura Co.	21- 4-21	1,040	rig. to pmp.
Munding, J. J., No. 1 Ojai, Ventura Co.	22- 4-22	998	br. sh. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	9,525	swb. wtr.
Vaca Oil Co., No. 1 Oxnard, Ventura Co.	5- 1-21	2,822	rig. to pmp.
Continental Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	1,752	sd. sh. drlg.
General Pet. Corp., No. 1 Padre Canyon, Ventura Co.	15- 3-24	4,874	O.S. drlg.
Continental Oil Co., No. 2 Padre Canyon, Ventura Co.	15- 3-24	5,759	C.P. 5,644
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co.	23- 3-24	1,490	cmtd. 1,490
Honolulu Oil Corp., No. 1 South Mountain, Ventura	23- 3-21	4,853	P.P. 4,748
Calco Pet. Corp., No. 4 South Mountain, Ventura Co.	17- 3-20	1,297	sd. sh. drlg.
Associated Oil Co., No. 27 Hartman, Ventura Co.	22- 3-23	1,275	sd. sh. drlg.
Associated Oil Co., No. 12 McGonigle, Ventura Co.	23- 3-23	9,520	hd. sd. drlg.
Associated Oil Co., No. 25 V.L.W. Ventura, Ventura	23- 3-23	7,055	swbd. wet
Associated Oil Co., No. 30 V.L.W. Ventura, Ventura	24- 3-23	6,876	sd. sh. drlg.
Associated Oil Co., No. 28 Lloyd Ventura, Ventura	27- 3-23	5,553	sd. sh. drlg.
Shell Oil Co., No. 88 Taylor Ventura, Ventura Co.	30- 3-23	7,600	O.S. drlg.
General Pet. Corp., No. 17 Barnard Ventura, Ventura	23- 3-23	4,360	hd. sd. drlg.
General Pet. Corp., No. 13 Notten Ventura, Ventura	23- 3-23	9,510	reaming
Den Petroleum Co., No. 1 Devils Den, Kern Co.	20-25-19	1,287	redrlg. 1,214
Associated Oil Co., No. 6-L-3 Lost Hills, Kern Co.	2-26-20	2,253	P.B. 1,949
Texas Co., No. 1 Lost Hills, Kern Co.	11-26-20	2,037	P.B. 1,948
Woodward, Hoke, No. 6 McKittrick, Kern Co.	11-30-21	1,317	cmtd. 960
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	2,013	P.B. 1,700
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Associated Oil Co., No. 5 North Belridge, Kern Co.	34-27-20	8,508	O.S. drlg.
Belridge Oil Co., No. 12-1 North Belridge, Kern Co.	1-28-20	5,894	sd. sh. drlg.
Belridge Oil Co., No. 15-35 North Belridge, Kern Co.	35-27-20	5,840	hd. sd. drlg.
Belridge Oil Co., No. 5-1 North Belridge, Kern Co.	1-28-20	8,100	hd. sh. drlg.
National Oil Co., No. 5 Grau Kern Front, Kern Co.	11-28-27	1,450	sd. sh. drlg.
National Oil Co., No. 4 Provident Kern Front, Kern	11-28-27	1,848	rig. to pmp.
Honolulu Oil Corp., No. 49 Kern Front, Kern Co.	8-28-27	2,888	rig. to pmp.
Honolulu Oil Corp., No. 69 Kern Front, Kern Co.	8-28-27	1,641	sd. sh. drlg.
Pan American, No. 25 fee Kern Front, Kern Co.	22-28-27	2,325	pmp. 72 b.d.
McDonald & Dearin, No. 3 Kern Front, Kern Co.	11-28-27	2,008	bailing
American Expl. Co., No. 2 Kern Front, Kern Co.	16-28-27	2,550	sd. sh. drlg.
Bishop Oil Co., No. 11 Kern Front, Kern Co.	23-28-27	1,799	cmtd. 1,719
Millburn, E. B., No. 1 Kern Front, Kern Co.	10-28-27	160	sd. sh. drlg.
Trico O. & G. Co., No. 1 Kern Front, Kern Co.	36-28-27	3,154	cleaning out
Kaime, A. M., No. 1 Kern Front, Kern Co.	17-28-27	2,895	cmtd. 2,832
General Pet. Corp., No. 39 Kern Front, Kern Co.	14-28-27	1,945	sd. sh. drlg.
Kaar, Charles, No. 1 Kern Front, Kern Co.	26-28-27	2,250	cleaning out
Bell Corp., No. 3 McVan, Kern Co.	14-27-27	981	sd. sh. drlg.
Calif. Western Oil Co., No. 2 McVan, Kern Co.	23-27-27	1,121	sd. sh. drlg.
Harp, E. J., No. 1 Dominion, Kern Co.	27-26-28	1,434	rig. to pmp.
Ring Oil Co., No. 1 Dominion, Kern Co.	28-26-28	1,232	sd. sh. drlg.
Vanguard Oil Co., No. 6 Mount Poso, Kern Co.	33-27-28	1,790	pmp. 340 b.d.
Shell Oil Co., No. 30 Mount Poso Vedder, Kern Co.	9-27-28	1,675	cmtd. 1,466
Chevalier, J. J., No. 1 Mount Poso Vedder, Kern Co.	3-27-28	1,455	pmp. 60 b.d.
C. C. M. Oil Co., No. 3 Mount Poso Dorsey, Kern Co.	26-27-28	137	sd. sh. drlg.
Cal-Coast-Apex Oil Co., No. 1 Mount Poso, Kern Co.	36-26-27	2,276	sd. sh. drlg.
Doyle Pet. Co., No. 1 Jasmine, Kern Co.	15-25-27	2,956	P.B. 2,882
Elbee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,805	P.B. 3,620
Western Gulf Oil Co., No. 33 Fruitvale, Kern Co.	21-29-27	3,909	pmp. 114 b.d.
Western Gulf Oil Co., No. 34 Fruitvale, Kern Co.	22-29-27	2,194	sd. sh. drlg.
Miami Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,070	P.B. 2,800
Bilgrad Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,154	sd. sh. drlg.
Higgins, W. F., No. 1 Fruitvale, Kern Co.	21-29-27	4,050	sd. sh. drlg.
Linderman Oil Corp., No. 1 Fruitvale, Kern Co.	28-29-27	4,333	P.B. 4,265
Whiston, H. L., No. 1 Fruitvale, Kern Co.	23-29-27	3,152	pmp. 348 b.d.
Haar & White No. 1 Fruitvale, Kern Co.	26-29-27	3,396	pmp. 100 b.d.
Hope Oil Co., No. 1 Kern, Kern Co.	8-29-28	698	idle
Allied Pet. Co., No. 20 Mountain View, Kern Co.	19-30-29	5,457	P.B. 5,187
Hogan Pet. Co., No. 19 Mountain View, Kern Co.	5-31-29	6,168	test. W.S.O.
Hogan Pet. Co., No. 20 Mountain View, Kern Co.	4-31-29	4,988	sd. sh. drlg.
Hogan Pet. Co., No. 21 Mountain View, Kern Co.	29-30-29	3,740	sd. sh. drlg.
Sheldon Oil Co., No. 2 Mountain View, Kern Co.	19-30-29	5,685	cmtd. 5,530
Hancock Oil Co., No. 10 Mountain View, Kern Co.	14-30-28	3,391	sd. sh. drlg.
Mid-State Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	3,285	sd. sh. drlg.
Mohawk Pet. Co., No. 3 Mountain View, Kern Co.	30-30-29	6,460	sd. sh. drlg.
Mohawk Pet. Co., No. 8 Mountain View, Kern Co.	30-30-29	6,035	cleaning out
Wood-Callahan Oil Co., No. 2 Mountain View, Kern	24-30-28	3,156	sd. sh. drlg.
East Edison Oil Co., No. 1 Edison, Kern Co.	23-30-30	1,035	sd. sh. drlg.
Mohawk Pet. Co., No. 2 Arvin, Kern Co.	10-31-29	6,166	wet
General Pet. Corp., No. 1 Arvin, Kern Co.	26-31-29	7,215	sd. sh. drlg.
Shell Oil Co., No. 1 Arvin, Kern Co.	15-31-29	6,171	flowed gas
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	5,251	sd. sh. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	7,700	sd. sh. drlg.
Standard Oil Co., No. 11-1 Rio Bravo, Kern Co.	19-29-26	7,463	sd. sh. drlg.
Piute Holding Co., No. 1 Round Mountain, Kern Co.	17-28-29	716	sd. sh. drlg.
Shell Oil Co., No. 1-7 Olcese Round Mountain, Kern	17-28-29	1,840	O.S. drlg.
Shell Oil Co., No. 1-8 Olcese Round Mountain, Kern	17-28-29	1,901	pmp. 155 b.d.
Shell Oil Co., No. 11 Freeman Round Mountain, Kern	20-28-29	1,720	cleaning out
Shell Oil Co., No. 16 Caldwell Round Mountain, Kern	7-28-29	1,471	sd. sh. drlg.
Standard Oil Co., No. 9-1 Ten Section, Kern Co.	34-30-26	7,790	sd. sh. drlg.
Standard Oil Co., No. 10-1 Ten Section, Kern Co.	20-30-26	8,300	br. sh. drlg.
Ohio Oil Co., No. 1-E Ten Section, Kern Co.	19-30-26	8,331	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	6,660	sd. sh. drlg.
Ohio Oil Co., No. 1-B Buena Vista Gas, Kern Co.	4-32-26	5,627	dry; abd.
C. C. M. Oil Co., No. 21-21 Midway-Sunset, Kern Co.	21-32-23	2,270	sd. sh. drlg.
C. C. M. Oil Co., No. 24-21 Midway-Sunset, Kern Co.	21-32-23	1,261	sd. sh. drlg.
Twentieth Century Oil Co., No. 1 Midway-Sunset, Kern	1-11-24	2,260	sd. sh. drlg.
Burkholder Oil Co., No. 1 Midway-Sunset, Kern Co.	25-32-23	2,536	will deepen
Berry Oil Co., No. 23 Midway-Sunset, Kern Co.	28-12-24	765	sd. sh. drlg.
Quality Oil Co., No. 4 Midway-Sunset, Kern Co.	22-32-23	2,100	sd. sh. drlg.
Quality Oil Co., No. 5 Midway-Sunset, Kern Co.	27-32-23	1,898	sd. sh. drlg.
Associated Oil Co., No. 7 Midway-Sunset, Kern Co.	35-31-22	1,235	rig. to pmp.
Merritt-Anex Oil Co., No. 4 Midway-Sunset, Kern Co.	25-12-24	2,900	pmp. 606 b.d.
Sheppard Oil Co., No. 1 Midway-Sunset, Kern Co.	12-11-24	3,262	sd. sh. drlg.
Standard Oil Co., No. 3-25-L Midway-Sunset, Kern	25-12-24	3,224	will deepen
Standard Oil Co., No. 21-15-D Midway-Sunset, Kern	15-32-24	3,340	fishing
Standard Oil Co., No. 8-33-D Midway-Sunset, Kern	33-32-24	2,885	pmp. 230 b.d.
McCray, Ralph, No. 1 Midway-Sunset, Kern Co.	22-32-23	1,171	sd. sh. drlg.
Dunlap, D. D., No. 1 Midway-Sunset, Kern Co.	15-32-23	1,285	sd. sh. drlg.
Pomoc Oil Co., No. 8 Midway-Sunset, Kern Co.	15-32-23	2,810	completing
Union Oil Co., No. 1 Midway-Sunset, Kern Co.	7-11-23	1,936	P.B. 1,800
Union Oil Co., No. 2 Midway-Sunset, Kern Co.	22-32-23	1,560	sd. sh. drlg.
Union Oil Co., No. 3 Midway-Sunset, Kern Co.	22-32-23	2,084	O.S. drlg.
Birch-Rand Oil Co., No. 1 Midway-Sunset, Kern Co.	22-32-23	2,142	P.B. 2,095
Jerman, R. W., No. 1 Midway-Sunset, Kern Co.	17-31-23	4,921	sd. sh. drlg.
South Cerritos Oil Co., No. 3 Midway-Sunset, Kern Co.	22-32-23	1,817	pmp. 412 b.d.
North American, No. 4 Midway-Sunset, Kern Co.	2-32-24	3,275	sd. sh. drlg.
Honolulu Oil Corp., No. 6 Midway-Sunset, Kern Co.	14-32-24	3,570	swabbing
Safeway Oil Co., No. 1 Midway-Sunset Diablo, Kern	26-32-23	3,700	idle
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co.	22-32-24	3,425	P.B. 3,282
Reserve O. & G. Co., No. 33-1 Tejon, Kern Co.	33-11-19	6,032	redrlg. 5,224
Reserve O. & G. Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,518	redrlg. 4,495
Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	4,860	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,527	cleaning out
Mohawk Pet. Co., No. 1 Cantua, Fresno Co.	30-16-15	4,560	sd. sh. drlg.
Etheridge Oil, No. 1 Iowa Kettleman North, Fresno	27-21-17	2,876	sd. sh. drlg.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	9,060	gr. sd. drlg.
K. N. D. A., No. 47-18-J Kettleman North, Fresno Co.	18-21-17	8,931	flow. 3,148 b.d.
K. N. D. A., No. 25-20-J Kettleman North, Fresno Co.	20-21-17	5,761	sd. sh. drlg.
K. N. D. A., No. 21-30-J Kettleman North, Fresno Co.	30-21-17	3,819	gr. sd. drlg.
K. N. D. A., No. 52-30-J Kettleman North, Fresno Co.	30-21-17	7,497	br. sh. drlg.
K. N. D. A., No. 58-28-J Kettleman North, Fresno Co.	28-21-17	7,975	hd. sd. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

K. N. D. A., No. 63-28-J Kettleman North, Fresno Co.	28-21-17	8,475	gr. sd. drlg.
K. N. D. A., No. 83-24-H Kettleman North, Fresno	24-21-16	8,935	salt wtr.
K. N. D. A., No. 81-32-J Kettleman North, Fresno	32-21-17	2,684	sd. sh. drlg.
K. N. D. A., No. 85-32-J Kettleman North, Fresno	32-21-17	6,644	br. sh. drlg.
K. N. D. A., No. 52-34-J Kettleman North, Fresno	34-21-17	7,060	br. sh. drlg.
K. N. D. A., No. 72-34-J Kettleman North, Fresno	34-21-17	7,894	O.S. drlg.
K. N. D. A., No. 47-2-P Kettleman North, Kings Co.	2-22-17	7,085	P.B. 6,103
Standard Oil Co., No. 32-19-J Kettleman North, Fresno	19-21-17	8,836	P.B. 8,640
Standard Oil Co., No. 72-19-J Kettleman North, Fresno	19-21-17	8,820	cmtd. 8,730
Standard Oil Co., No. 85-19-J Kettleman North, Fresno	19-21-17	4,440	sd. sh. drlg.
Standard Oil Co., No. 46-13-H Kettleman N., Fresno	13-21-16	8,560	gr. sd. drlg.
Standard Oil Co., No. 54-1-U Kettleman North, Kings	1-23-18	9,675	P.B. 8,260
Standard Oil Co., No. 48-35-J Kettleman North, Kings	35-21-17	7,951	hd. sd. drlg.
Standard Oil Co., No. 46-19-V Kettleman Middle, Kings	19-23-19	7,697	br. sh. drlg.
Kettleman View Oil Co., well No. 1, Kings Co.	29-22-19	4,791	gr. sd. drlg.
Associated Oil Co., No. 1 Avenal, Kings Co.	33-23-17	3,110	P.B. 2,890
McBurney Oil Co., No. 1 Carriso, San Luis Obispo Co.	23-32-22	1,553	sd. sh. drlg.
Foster, R. A., No. 1 Carriso, San Luis Obispo Co.	2-32-22	5,000	fish, bailer
Calif. Producing Co., No. 1 Pattiway, San Luis Obispo	19-10-24	749	sd. sh. drlg.
United Oil Co., No. 2 Panorama, San Luis Obispo Co.	2-32-21	2,197	sd. sh. drlg.
Union Oil Co., No. 1 Huasna, San Luis Obispo Co.	22-32-15	2,863	br. sh. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	will deepen
Martin, J. D., No. 4 Pismo, San Luis Obispo Co.	5-32-13	3,152	sd. sh. drlg.
Martin, J. D., No. 5 Pismo, San Luis Obispo Co.	5-32-13	3,154	sd. sh. drlg.
Cholame Synd., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	redrlg. 3,637
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	4,365	sd. sh. drlg.
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	5,720	sd. sh. drlg.
Amerada Pet. Co., No. 3 Rio Vista, Solano Co.	26- 4-2	1,461	sd. sh. drlg.
Jennings, E. P., No. 1 Alpaugh, Tulare Co.	4-24-23	2,151	sd. sh. drlg.
Trico Oil & Gas Co., No. 2 Angiola, Tulare Co.	27-21-25	3,347	suspended
Associated Oil Co., No. 1 Sargent, San Benito Co.	5-12-4	4,798	hd. sd. drlg.
Seaboard Oil Co., No. 1 Alameda, Alameda Co.	13- 3-3	5,260	sd. sh. drlg.
Standard Oil Co., No. 4 McDonald Island, San Joaquin	19- 2-5	3,090	sd. sh. drlg.
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15-1	540	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard Oil Co., No. 1 Alondra, Los Angeles Co.	22- 3-14	5,941	sd. sh. drlg.
Richfield Oil Co., No. 1 El Segundo, Los Angeles Co.	18- 3-14	7,052	sd. sh. drlg.
Signal Finance, No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	cleaning out
Listie, J. I., No. 1 Moneta, Los Angeles Co.	33- 3-14	7,352	form. test
C. C. M. Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	4,160	hd. sd. drlg.
C. C. M. Oil Co., No. 8 Torrance, Los Angeles Co.	9- 4-14	3,635	bailing
Southwest Pet. Co., No. 1 Torrance, Los Angeles Co.	6- 4-14	3,136	sd. sh. drlg.
Black Gold Corp., No. 2 Torrance, Los Angeles Co.	6- 4-14	2,980	sd. sh. drlg.
Clark, T. R., No. 1 Torrance, Los Angeles Co.	31- 3-14	4,354	P.B. 4,318
Dearborn Pet. Co., No. 1 Torrance, Los Angeles Co.	16- 4-14	4,350	sd. sh. drlg.
Keystone Consd. Oil Co., No. 1 Redondo, Los Angeles	6- 4-14	1,169	sd. sh. drlg.
Associated Oil Co., No. 51 Inglewood, Los Angeles Co.	8- 2-14	3,250	rig. to pump
Shell Oil Co., No. 1 Flood Control, Los Angeles Co.	11- 4-13	4,370	sd. sh. drlg.
Universal Consd., No. 1 Gardena, Los Angeles Co.	36- 3-14	1,520	sd. sh. drlg.
West American, No. 1 Gardena, Los Angeles Co.	5- 4-13	6,861	redrlg. 6,580
Shell Oil Co., No. 84 Dominguez Reyes, Los Angeles	33- 3-13	7,642	cmt. fish
Shell Oil Co., No. 86 Dominguez Reyes, Los Angeles	33- 3-13	1,884	sd. sh. drlg.
Shell Oil Co., No. 87 Dominguez Reyes, Los Angeles	33- 3-13	5,064	sd. sh. drlg.
Union Oil, No. 42 Dominguez Callender, Los Angeles	33- 3-13	6,654	cleaning out
Union Oil, No. 47 Dominguez Callender, Los Angeles	33- 3-13	8,711	P.B. 4,810
Union Oil, No. 50 Dominguez Callender, Los Angeles	33- 3-13	8,250	sd. sh. drlg.
Union Oil, No. 42 Dominguez Hellman, Los Angeles	33- 3-13	6,737	cleaning out
Union Oil, No. 44 Dominguez Hellman, Los Angeles	33- 3-13	5,386	sd. sh. drlg.
Santa Rita Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	3,920	bailing
Barnsdall Oil Co., No. 10 Rosecrans, Los Angeles Co.	20- 3-13	4,294	will deepen
Calizoo Oil Co., No. 1 Compton, Los Angeles Co.	16- 3-13	3,875	resume work
Eastern Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	7,562	flow. water
Sharby Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	6,741	sd. sh. drlg.
Union Oil, No. 17 Vidor Playa Del Rey, Los Angeles	27- 2-15	6,283	sd. sh. drlg.
Union Oil, No. 15 D.R. Playa Del Rey, Los Angeles	27- 2-15	2,190	sd. sh. drlg.
Superior Oil Co., No. 1 Del Rey, Los Angeles Co.	25- 2-15	8,098	sd. sh. drlg.
Vincent Pet. Co., No. 1 Culver City, Los Angeles Co.	12- 2-15	6,238	idle
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	2,816	P.B. 1,500
Holbrook Pet. Co., No. 1 Newhall, Los Angeles Co.	28- 4-16	3,554	sd. sh. drlg.
Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co.	26- 4-17	4,776	sd. sh. drlg.
Sunset Oil Co., No. 2 Wilmington, Los Angeles Co.	28- 4-13	3,282	sd. sh. drlg.
General Pet. Corp., No. 1 Wilmington, Los Angeles Co.	4- 5-13	5,510	cleaning out
General Pet. Corp., No. 2 Wilmington, Los Angeles Co.	4- 5-13	1,831	sd. sh. drlg.
Gauthier Oil Co., No. 1 Wilmington, Los Angeles Co.	27- 4-13	3,691	sd. sh. drlg.
Standard Oil Co., No. 90 Montebello, Los Angeles Co.	1- 2-12	2,660	O.S. drlg.
Universal Consd., No. 8 Montebello, Los Angeles Co.	5- 2-11	5,679	pump. 208 b.d.
Universal-Richfield, No. 1-J Montebello, Los Angeles	6- 2-11	5,875	prod. test
Richfield Oil Co., No. 3 Montebello, Los Angeles Co.	5- 2-11	3,093	sd. sh. drlg.
St. Helens Pet. Co., No. 22 Montebello, Los Angeles Co.	2- 2-12	3,420	sd. sh. drlg.
St. Helens Pet. Co., No. 23 Montebello, Los Angeles Co.	2- 2-12	3,440	sd. sh. drlg.
Hathaway, No. 3 Fulton Santa Fe Springs, Los Angeles	6- 3-11	4,462	pump 50 b.d.
General Pet., No. 137-F Santa Fe Springs, Los Angeles	6- 3-11	5,490	sd. sh. drlg.
Ring Oil Co., No. 4 Santa Fe Springs, Los Angeles Co.	5- 3-11	4,666	pump. 10 b.d.
Union Oil Co., No. 34 Santa Fe Springs, Los Angeles	6- 3-11	4,490	cleaning out
Union Oil Co., No. 35 Santa Fe Springs, Los Angeles	6- 3-11	4,450	pump. 115 b.d.
Union Oil Co., No. 36 Santa Fe Springs, Los Angeles	6- 3-11	5,200	sd. sh. drlg.
Union Oil Co., No. 98 Santa Fe Springs, Los Angeles	6- 3-11	4,050	pump. 290 b.d.
Union Oil Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	7,425	sd. sh. drlg.
Union Oil Co., No. 101 Santa Fe Springs, Los Angeles	6- 3-11	5,415	rig. to pump
Sibert Oil Co., No. 1 Santa Fe Springs, Los Angeles Co.	31- 2-4	4,802	redrlg. 4,442
Clayton, C. L., No. 2 Long Beach, Los Angeles Co.	5- 4-12	1,520	idle
Shell Oil, No. 43 Alamitos Long Beach, Los Angeles	29- 4-12	4,383	pump. 170 b.d.
Associated Oil Co., No. 4 Huntington, Orange Co.	34- 5-11	4,050	redrlg. 3,641
Associated Oil Co., No. 8 Huntington, Orange Co.	34- 5-11	4,630	P.B. 3,515
Re-Mine Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	2,191	sd. sh. drlg.
W. C. W. Oil Co., No. 2 Huntington, Orange County	34- 5-11	2,838	sd. sh. drlg.
Westport Oil Co., No. 1 Huntington, Orange Co.	24- 5-11	3,979	pump. 505 b.d.
Kohlbush, H. S., No. 1 Huntington, Orange Co.	34- 5-11	1,581	sd. sh. drlg.
Vicaroo Oil Co., No. 1-A Huntington, Orange Co.	12- 6-11	4,000	sd. sh. drlg.
Hammil Oil Co., No. 2 Huntington, Orange Co.	34- 5-11	2,100	sd. sh. drlg.
South Basin Oil Co., No. 93 Huntington, Orange Co.	2- 6-11	1,982	sd. sh. drlg.
Elliott Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	3,096	sd. sh. drlg.
Lucky Strike Oil Co., No. 7 Huntington, Orange Co.	2- 6-11	3,352	P.B. 1,200
Richfield Oil Co., No. 3 Huntington, Orange Co.	34- 5-11	3,516	redrlg. 897
Union Oil Co., No. 9 Huntington, Orange Co.	34- 5-11	4,303	sd. sh. drlg.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	2,121	cleaning out
Shell Oil Co., No. 18 Brea, Orange Co.	2- 3-10	5,276	redrlg. 2,720
Shell Oil Co., No. 19 Brea, Orange Co.	2- 3-10	5,097	water witch
Standard Oil Co., No. 2-5 Coyote, Orange Co.	22- 3-10	3,790	redrlg. 3,073
Bar Oil Co., No. 1 East Coyote, Orange Co.	21- 3-9	3,010	sd. sh. drlg.
Oil Conservation Co., No. 1 East Coyote, Orange Co.	17- 3-9	2,584	sd. sh. drlg.
Continental Oil Co., No. 1 East Coyote, Orange Co.	20- 3-9	2,751	dry; abd.
West Coast Ref. Co., No. 1 Santa Ana, Orange Co.	25- 3-9	2,128	P.B. 1,400
Union Oil Co., No. 29 Chapman Richfield, Orange Co.	30- 3-9	8,600	sd. sh. drlg.
Union Oil Co., No. 33 Chapman Richfield, Orange Co.	29- 3-9	4,865	sd. sh. drlg.
Union Oil Co., No. 36 Chapman Richfield, Orange Co.	29- 3-9	3,465	sd. sh. drlg.
Union Oil Co., No. 37 Chapman Richfield, Orange Co.	29- 3-9	3,238	fishing
Standard Oil Co., No. 2-11 Kraemer Richfield, Orange	30- 3-9	4,282	redrlg. 3,333
Calif. Eastern Oil Co., No. 1 Placentia, Orange Co.	31- 3-9	4,786	redrlg. 3,870
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	26- 5-5	3,000	fishing
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10-5	2,812	hd. sd. drlg.

KANSAS

Week Ending November 14 (Descriptions are East unless marked otherwise)

Barber County

Pure Oil Co. No. 1 Palmer, SE NE SW sec. 10-33-10w. B.R.R.

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Miss. 4,807 ft. (cor.); Viola 5,105 ft.; Simpson 5,235 ft.; Wilcox 5,252 ft.; Sil. 5,331 ft.; drlg. 5,395 ft.

Barton County

Duee & Brouk No. 1 Baker, NE SE SW sec. 16-17-13w, M.I.M.

Freeborn et al No. 1 Sooy, NW NW NE sec. 27-18-12w. Cellar.

Minnehoma Oil & Gas Co. No. 1 Smith, NW NW NE sec. 20-18-13w. R.U.R.

B. L. Parks No. 1 Peach, SE cor. sec. 24-16-14w. R.U.S.T.

C. L. Price No. 1 Deutsch, NW NW NW sec. 16-16-13w, Topeka 2,820 ft.; Oswald 3,135 ft.; S.S.O. and 6-in. at 3,153 ft.; S.D.

Butler County

Hutchinson Oil & Gas Co. et al No. 1-A Westfall, SE SW SE sec. 13-27-3. K.C. 2,255 ft.; H.F.W. 2,325 ft.; 8-in. 2,325 ft.; S.D. 3,020 ft.

Simpson Oil Co. No. 1 Deblem, SW cor. sec. 11-26-6. Drlg. 3,115 ft.

Ed Solomon No. 1 Church, SW NE SE sec. 8-28-5. S.D. 200 ft.

Ralph Wixson et al No. 1 Coulter, NW SW NE sec. 3-27-7. M.I.M.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. S.D. 2,150 ft.

Clark County

Olson Oil Co. No. 1 Morrison, C SE SW sec. 17-32-21w, Viola 6,456 ft.; T.D. 6,481 ft.; swbd. 180 B.O. in 4 hrs.; 226 ft. open hole; may have bridged; to C.O.

Cowley County

Austin & McKnabb No. 1 Wilson, NE NE SE sec. 20-32-6. M.I.M.

Craft et al No. 1 Whitson, NE cor. sec. 20-33-4e. R.U.

C. H. Cross No. 1 Cook, SW cor. sec. 6-32-6. R.U. mch.

Home Natural Co. & McNish No. 2 Werner, SE SE SW sec. 31-32-6. Stalnaker sand 1,868-70 ft.; 6,414,000 ft. gas at 1,880 ft.; pulled 8-in.; drlg. 1,950 ft.

Tom Palmer No. 1 Pierce, SE SE SW sec. 14-31-3e. Loc.

Wakefield et al No. 1 Beekman, NW NW SE sec. 26-32-3. 12-in. 1,336 ft.; drlg. 1,735 ft.

Decatur County

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Fsg. 2,135 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w, Whipstock 4,332 ft.; drlg. by.

Ellis County

Jas. Brouk et al No. 1 Jacobs, NW NW SE sec. 31-15-16w. Oswald 3,161 ft.; drlg. 3,317 ft.

Champlin Refining Co. No. 1 Hadley, SE SW NE sec. 30-11-17w. Siliceous 3,790-3,830 ft.; D.&A.

Glick & Morrow No. 1 Staah, SW SW SE sec. 6-13-17w. Oswald 3,340 ft.; Sil. 3,631 ft.; H.F.W. 3,638-40 ft.; D.&A.

H. Jones Bros. et al No. 1 Phillips, SE SE NW sec. 9-15-17w. T.D. 406 ft.; skid 22 ft. east.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. 8-in. 3,018 ft.; S.D.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Drlg. 740 ft.

Lario O. & G. Co. No. 1 Marshall, NW SE NE sec. 36-11-18w. Anhy. 1,347 ft.; Oswald 3,356 ft.; Cong. 3,596 ft.; Dolomite 3,615 ft.; Siliceous and set 6-in. 3,638 ft.; T.D. 3,650 ft.; swbd. 17 bbls. oil per hr.

Loomis & Etyner No. 1 O'Laughlin, SE SE NW sec. 27-13-18w. B.R.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Drlg. 720 ft.

Taylor et al No. 1 Emery, NE NE NE sec. 23-14-18w. Anhy. 1,162 ft.; K.C. 3,285 ft.; set 6-in. 3,289 ft.

Winkler & Koch No. 1 Jensen, SW SW NE sec. 3-13-18w. Rig.

Ralph Wixson et al No. 1 Gerham Estate NW NW SW sec. 35-15-16w. Topeka 2,850 ft.; Oswald 3,135 ft.; Cong. 3,380 ft.; Sil. 3,473 ft.; 500 ft. W.I.H. 3,479-87 ft.

Graham County

Noah & Young No. 1 Hills, NW SE SE sec. 19-10-21w. Set 7-in. 3,664 ft.; drlg. 3,802 ft.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. Set 8-in. csg. 2,500 ft.; 3,000,000 ft. gas 2,808 ft.; T.D.; C.O.

Greenwood County

Dunn & Lewis No. 2 Dawson, C NE NE sec. 27-26-13e. S.D. 925 ft.

Estes et al No. 1 Edgar, NW NW SE sec. 1-28-8. O.W.D.D. Drlg. 1,020 ft.

Guy Scott et al No. 1 Pedroja, SE NE SE sec. 6-26-10. Penn sd. 1,675-1,720 ft.; S.O.; drlg. 2,155 ft.

Hale & Reese No. 1 Needles, NE SW NW sec. 12-25-10. Set 6-in. csg. 1,750 ft.; S.D.

Harvey County

McBurney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Chat 3,160 ft.; 6-in. 3,200 ft.; S.O.&G. 3,230 ft.; 4 bbls. wtr. 3,265 ft.

Inca Prod. Co. No. 1 Moore, C NE NE sec. 25-24-3w. Set 10-in. csg. 550 ft.; drlg. 2,200 ft.

Saco et al No. 1 Guthrie, NE NE NW sec. 8-22-2e. Drlg. 670 ft.

Haskell County

Helmerich & Payne No. 1 Meredith, C SW sec. 10-30-33w. R.U.R.

Kearney County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhydrite 1,900 ft.; T.D. 2,595 ft.

Lincoln County

Graham et al No. 1 Smiley, NE NW NW sec. 26-10-9w. Set 10-in. csg. 300 ft.; S.D.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. R.U.R.

Marion County

Harwood Oil Co. et al No. 1 W. H. Mott, NE cor. sec. 2-17-4e. Drlg. 2,090 ft.

Western Kansas Oil & Refining Co. et al No. 1 Hauser, SW cor. sec. 19-19-4. Spudded.

Meade County

Pacific Midwest Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. R.U.

Mitchell County

Gec. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. B.R.

Ness County

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. 10-in. 1,942 ft.; S.D. 2,450 ft.

Sayre Oil Co. et al No. 1 Ryersee, C NE SE sec. 34-18-21w. 5-in. liner 4,264 ft.; S.D. 4,270 ft.

Pawnee County

Kessler & Thier et al No. 1 Shea, NE NE NE sec. 22-21-17w. Drlg. 2,024 ft.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. Whipstock 3,000 ft.; drlg. 3,500 ft.

Indian Territory Illum. Oil Co. and Olson Drlg. Co. No. 1 Bolt, C NW NE sec. 5-29-11w. Chat 4,176 ft.; Viola 4,383 ft.; Simpson 4,474 ft.; Wilcox 4,484-86 ft.; Sil. 4,579 ft.; drlg. 4,591 ft.

Reno County

Carlock et al No. 1 Brown Realty Co., NW NW NE sec. 32-22-10w. Rig.

Empire O. & R. Co. No. 1 Schrock, NW NW SE sec. 22-24-5w. Loc.

Foraker et al No. 1 Hiett, SE SW NW sec. 34-24-4w. 6-in. 3,550 ft.; drlg. 3,555 ft.

Miller et al No. 1 Detter, NE SE SW sec. 28-22-7w. U.R. 8-in. at 3,265 ft.

Pryor & Lockhart et al No. 1 Kerr, C NW sec. 23-23-8w. Chat 3,685 ft.; Viola 4,038 ft.; Simpson 4,060 ft.; H.F.W. 4,070-75 ft.; 5-in. 4,038 ft.; drlg. 4,100 ft.

Clyde Pulse No. 1 Payne, SW NW NE sec. 4-22-7w. Set 10-in. 1,905 ft.

Torry & Feaster No. 1 Schroeder, SE cor. sec. 1-23-7w. B.R.

Westgate-Greenland Oil Co. No. 1 Fossey, SW SW SE sec. 12-22-8w. Drlg. 1,810 ft.

Rice County

Aylward et al No. 1 M. A. Johnson, NW NW NE sec. 17-21-7w. R.U.R.

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. Rig.

Carlock et al No. 1 Deweese, SW NW NW sec. 32-20-7w. K.C. 2,895 ft.; Cong. 3,315 ft.; set 7-in. 3,316 ft.; S.O. 3,316-23 ft.; T.D. 3,328 ft.; drlg. cmt.

Charles Petroleum Corp. No. 1 Speck, NW NW SE sec. 29-20-8w. Fsg. 2,795 ft.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. M.I.M.

Indian Terr. Ill. Oil Co. No. 1 Fossey, SW SW NE sec. 31-20-10w. M.I.M.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7. Cong. 3,329-37 ft.; T.D. 3,342 ft.; 6-in. liner at 3,337 ft.; swabbed 35 bbls. oil per hr.

Shell Petroleum Corp. et al No. 1 Soeken "A," C NW sec. 10-19-9w. Drlg. 2,844 ft.

Rooks County

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. 12-in. 785 ft.; drlg. 816 ft.

Empire Oil & Ref. Co. No. 1 Ham, SW NW NW sec. 24-8-19w. Anhy. 1,389 ft.; S.D. 2,400 ft.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. Rig.

Jarvis & Strickland No. 1 Hamel, SE SE SW sec. 7-8-20w. Drlg. 50 ft.

L. C. D. Drlg. Co. et al No. 1 Westhusin C NE SE sec. 11-9-17w. Topeka 2,894 ft.; pay 3,231-42 ft.; swbd. 36 bbls. oil in 8 hrs.; 1,000 ft. off bottom.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. S.D. 3,422 ft.

J. A. Shoemake No. 1 Stebbins, NE NW SW sec. 26-7-17w. T.D. 3,591 ft.; P.B. to 2,806 ft.; pmpd. 25 B.O. and 100 B.W.

Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-7s-17w. M.I.M.

Rush County

Schoenfeld & Kitch No. 1 Winget, SE cor. sec. 15-16-16w. Set 15-in. 367 ft.; W.O.C.

C. L. Sheedy No. 1 Bison, SW cor. sec. 35-16-17w. S.D. 3,035-40 ft.; K.C. 3,323 ft.; 8-in. 3,335 ft.; S.D. 3,390 ft.

Russell County

Joe Aylward et al No. 1 McAllister, NE NE SE sec. 9-12-13w. Siliceous 3,550 ft.; H.F.W. 3,567-68 ft.; T.D. and S.D.O.

Empire O. & R. Co. No. 1 Frederick, SE cor. sec. 18-15-11w. M.I.M.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. R.U.M.

Saline County

Brouk et al No. 1 Othelander, NE NW SE sec. 10-16-3w. S.D. 2,650 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. B.R.

D. R. Lauck No. 1 McLean, SW SW SE sec. 1-27-1w. Siliceous 3,613 ft.; wt 3,755-68 ft.; T.D. 4,123 ft. (cor.); lost bit; S.D.

R. J. Wallace et al No. 1 Scheer, SW cor. sec. 22-27-3w. S.O. 3,145 ft.; base K.C. L. 3,265 ft.; chat 3,690 ft.; drlg. 3,975 ft.

Scott County

C. R. Blackman et al No. 1 Nolan, NW NW NE sec. 13-19-33w. Loc.

Sheridan County

O. A. Roberts et al No. 1 Corrick, C NW sec. 34-9-26w. R.U.R.

Smith County

Helmerich & Payne, No. 1 Meyer, C NE SW sec. 10-5-11w. Drlg. 2,750 ft.

Stafford County

Atlantic Ref. Co. et al No. 1 Davis, SE SE SW sec. 32-23-12w. 12-in. 245 ft.; W.O.C.

Empire Ref. Co. et al No. 1 Jordon SW SW NW sec. 15-25-14w. K.C. 3,640 ft.; cd. 3,665-80 ft.; T.D.; no show; set pipe at 3,680 ft.

Skelly Oil Co. et al No. 1 Kipp, SE SE NE sec. 27-25-14w. Set 6-in. csg. 3,978 ft.; drlg. 4,032 ft.

C. E. Skiles et al No. 1 Hughes, SW cor. sec. 12-23-12w. R.U.

C. E. Skiles No. 1 Leidigh, NW NW SW sec. 21-22-11w. U.R. 8-in. 2,985 ft.

Sumner County

Empire O. & R. Co. No. 1 Hoffman, NW NW SW sec. 27-34-1e. Drlg. 1,055 ft.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. 10-in. 506 ft.; drlg. 508 ft.

Hapenny & Green et al No. 1 Evers, SE SE NE sec. 27-31-2. S.D. 519 ft.

Lario O. & G. Co. et al No. 1 Hall, NW SW NW sec. 11-35-1e. Rig.

W. C. McBride, Inc. & Olson Drilling Co. No. 1 Kinlund, NE NW NE sec. 24-34-1e. Layton 2,892 ft.; chat 3,538 ft.; set packer 3,547 ft.; drlg. 3,771 ft.

Rose Spring Drlg. Co. et al No. 1-A Rutter, C NW NW sec. 21-33-2e. Drlg. 2,035 ft.

Trego County

York State Oil Corp. No. 1 Gugler, SW cor. sec. 36-12-21w. Sil. 3,830 ft.; pay 3,837-39 ft.; 1,400 ft. O.I.H. in 20 hrs.; to set 5-in.

Woodson County

Dwyer et al No. 1 Wolf, NE NE SW sec. 9-24-14. Drlg. 150 ft.

Carter County

Head & Straus No. 1 Simpson & Fell, NW NW SE sec. 5-1s-3w. Drlg. 430 ft.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4-11w. Drlg. 860 ft.

L. D. Wise No. 1 Cones, SE SE SW sec. 11-1n-10w. T.D. 2,156 ft.; fsg.

Cotton County

Phillips Pet. Co. No. 1 Warren, C NE NE SE sec. 1-5s-13w. Canyon series 2,160 ft.; L., 2,240 ft.; drlg. 2,500 ft.

Grace-Wood Drlg. Co. No. 1 Wilson, C SW NW sec. 17-4s-11w. Drlg. 880 ft.

Harmon County

Lloalko Trust, Ltd., No. 1 Crosnoe, SW SE SW sec. 14-3n-25w. T.D. 2,980 ft.; S.D.O.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w. Junked hole; mach. moved out; T.D. 2,202 ft.; jnkd. hole; abd.

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. T.D. 21 ft.; S.D.

Mid-Continental Oil Co. No. 1 Reid, C SW NW sec. 32-6s-4w. Drlg. 1,177 ft.

Pearson et al No. 1 Douthitt, NE cor. sec. 24-6s-9w. L. 4,227-85 ft.; T.D. 4,322 ft.; S.L.M.; fsg.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. Drlg. 388 ft.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D 7,363 ft.; P.B. 2,970 ft.; perforated csg at 1,539-99 ft. and 2,095-2,115 ft.; cmtd. perf.; flwd. 22 bbls. in 24 hrs. and "went dead"; S.D.O. Aug. 4.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; waiting for tools; will deepen.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; cut 5-in. csg. at 7,109 ft.; P.B. to 6,937 ft.; flwd. 135 bbls. by heads; now dead; R.U.S.T.

Marshall County

Magnolia Pet. Co. No. 1 Gardner, NE NE NW sec. 34-6s-6e. Drlg. 1,240 ft.

Murray County

Power Oil Co. et al No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. Woodford 2,630 ft.; Hunton 2,951 ft.; 7-in. csg. 2,952 ft.; T.D. 3,002 ft.; acidized; S.I. for test.

J. Ben Russell No. 1 fee, SE SE NW SE sec. 9-2s-3e. R.M.

Stephens County

Jack Cohen No. 1 Pierce, NE NE NW sec. 24-2s-6w. Drk.

Coline Oil Co. No. 1 Johnson, SW SE NE sec. 1-2n-8w. S.O. 2,654-64 ft.; gas, 2,818 ft.; drlg. 3,980 ft.

H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. Drlg. 600 ft.

Ed Parson No. 1 Olson, C SW SW sec. 21 2-8w. Sd. 5,205-14 ft.; T.D.; tstd. mud and wtr.; swbg. to test.

Tillman County

Indian Terr. Ill. Oil Co. No. 1 Hatler, C SW NE sec. 32-2s-17w. Canyon series 2,940 ft.; cd. to 3,020 ft.; T.D. rec. Cisco L.; S.O.; 35 ft. mud on D.S.T.

Lynn Oliver No. 1 Rilling, SE SE NW sec 22-1s-15w. T.D. 1,253 ft.; S.D.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. T D. 2,425 ft.; S.D.

OKLAHOMA

Week Ending November 14

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1 Biscoe, SW SW SW sec. 28-8-22w. T.D. 950 ft.; moving in mach.

Caddo County

Wasteka Oil Co. No. 1 Griffin, SW SE NE sec. 27-6-10w. T.D. 6,579 ft.; lost hole; will skid rig and drill 2nd hole.

Cleveland County

Helmerich & Payne, Inc., No. 1 Glenn, C NW NE sec. 6-8-1w. Drlg. 1,225 ft.

W. R. Hollenbeck No. 1 Norman, NW NW **NE sec. 17-9-2w. Rig.**

Coal County

Carter Oil Co. et al No. 1 Warne, NE NE NW sec. 31-3-9. Drlg. 4,850 ft.

Continental Oil Co. No. 1 Breedlove, NW SW SW sec. 24-1-8. Drlg. 3,918 ft.

Continental Oil Co. No. 1 Daniels, SW NE SW sec. 27-1-9. Drlg. 3,710 ft.

Continental Oil Co. No. 1 King, NE SW **NE sec. 26-1-8. Hunton 4,354 ft.; S.O.** 4,358 ft.; drlg. 4,970 ft.

Continental Oil Co. No. 1 W. Kirby SW SE SW sec. 23-1n-8e. T.D. 1,190 ft.; pulling 9-in.

Shell Pet. Corp. No. 4 Hill-A, NW sec. 30-3-10. Packer 4,202 ft.; Hal. test 800 ft. mud; S.S.G.& salty; drlg. 4,354 ft.

Sinclair Prairie Oil Co. No. 1 Culver, NE NE SW sec. 16-1-8. T.D. 5,610 ft.; P.B. 5,280 ft.; packer 5,225 ft.; Hal. test; 2 ft. fresh wtr.; P.B. 5,162 ft.; W.O.C.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. Layton 1,605-95 ft.; Jones 1,835-50 ft.; Cleveland 1,985-2,010 ft.; S.G.; T.D. 2,210 ft.; S.D.

Garfield County

Ohio Oil Co. No. 1 McFarland, SE SE SE sec. 25-24-3w. Drlg. 2,000 ft.

Ohio Oil Co. No. 1 Smythe, NE NE SW sec. 23-22-4w (Wilcox sd. test) Viola 4,879 ft.; Simpson 4,910 ft.; first Wilcox 4,968-5,020 ft.; second Wilcox 5,070 ft.; Tyner 5,193 ft.; Arbuckle 5,358 ft.; T.D. 5,449 ft.; P.B. 5,200 ft.; drill pipe stuck 5,191 ft.

Garvin County

Allison & Hammond No. 1 Selby, C SE NW sec. 24-2n-3w. Drlg. 3,115 ft.

C. A. Luttrell et al No. 1 Howell, NW SE NW sec. 34-1-1. T.D. 160 ft.; S.D.

Pure Oil Co. No. 1 Baker, NE cor. sec. 7-2-1e. Simpson 3,744 ft.; second Wilcox 4,284 ft.; sd. to 4,299 ft.; rec. 2 ft. sd., salty taste; last 3 in. odor of sulfur; McLish L. 4,319 ft.; drlg. 4,408 ft.

Greer County

Bud Lewis et al No. 1 Webster, SW NE NE NE sec. 7-7-24w. Machine.

Neff-Godfrey-Andrea No. 1 Melton, SE NW SE sec. 16-3n-22w. Loc.

Hughes County

W. W. Bussett No. 1 Field, C NW SW sec. 11-9-11. R.U.S.T.

R. K. Ellison No. 1 Peters, SE NW SE sec. 8-6-10. Drlg. 2,320 ft.

McAdams & Barnes No. 1 Koch, SW NE NE sec. 1-9-10. Drlg. 3,734 ft.

Mid-West Oil Co. No. 1 Turner-Lucas, C SE NW sec. 13-9-9. Drlg. 860 ft.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. Crom. 3,472-94 ft.; T.D. 3,540 ft.; 5-in. csg. run to 3,472 ft.; not cmtd.; will S.D.

Southern Oil Co. No. 1 Buck, C NW SW SW sec. 21-8-10. R.U.S.T.

Kay County

Max Kelley No. 1 Johns, NW NW NW sec. 35-27-4. Tonkawa 1,990 ft.; drlg. 2,305 ft.

Kiowa County

Argus Pet. Co. No. 1 Osbourne, NW cor. NE sec. 9-7-16w. L. 1,180 ft.; S.G.; fsg. 1,225 ft.; T.D.

Burns & Moore No. 1 Block, NW NE SW sec. 31-6-16w. S.D. 50 ft.

Lykins et al No. 1-A Aetna Life, SE cor. sec. 8-5-16w. T.D. 750 ft.; S.D.

Travis & Scott No. 1 Doyle, NE SE SW sec. 21-5-17w. T.D. 939 ft.; machine moved out.

J. M. Young No. 1 Cooke, NE NE NW sec. 33-2-16w. T.D. 677 ft.; abd.

Latimer County

Cheyenne Oil Co. No. 1 Wilson, C SE SE sec. 15-5-18. Spudded; W.O.C.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. 10-in. 1,935 ft.; drlg. 2,285 ft.

Lincoln County

Fleetborn Oil Corp. No. 1 Turner, NW NW SE sec. 28-17-5. Layton 2,284 ft.; S.G.; drlg. 2,850 ft.

Skelly Oil Co. No. 1 Sporn, NW NE SW sec. 21-17-3. T.D. 4,651 ft. in sd.; fsg.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. C.O. at 4,958 ft.

Helmerich & Payne et al No. 1 Hasler, NW NW SE sec. 14-16-4w. Oread 3,740 ft.; Tonkawa 4,130 ft.; drlg. 4,945 ft.

McIntosh County

Stanolind Oil & Gas Co. et al No. 1 Tiger NW NW SW sec. 13-9-15. Drlg. 4,541 ft.

Muskogee County

A. D. Spears et al No. 1 Robbins, NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

Noble County

Shell Pet. Corp. No. 1 Moelling, C SW NW sec. 31-21-2w. Oread 3,095 ft.; Tonkawa 3,580 ft.; drlg. 4,092 ft.

Okfuskee County

Harvey Oil Co. No. 1 Stewart, NE cor. sec. 28-10-9. Set 10-in. csg. at 61 ft.; S.D.

Osage County

Chavalier & Simon No. 1 Osage, SE sec. 24-23-9. Cleveland 1,400-30 ft.; dry; lower Cleveland 1,485-1,525 ft.; H.F.W.; Big L. 1,610-1,725 ft.; sd. 1,891-1,905 ft.; wtr.; T.D. 1,950 ft.; S.D. for repairs.

Pawnee County

Forest Dev. Corp. No. 1 Otter, NE NW sec. 15-21-5. R.U.R.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Sand, 3,398 ft.; drlg. 3,752 ft.

Pontotoc County

Caloma Oil Corp. No. 1 Brentz, SE NE SW sec. 4-1-6. S.D. 503 ft.

H. H. Diamond No. 1 fee, SE cor. sec. 36-5-8. Sd. 1,044-46 ft.; 1,000,000 ft. gas; set 5-in. to 1,046 ft.

Seminole County

Amerada Pet. Co. No. 1 Yarhola, NE NW NW sec. 36-10-7. Flwd. 235 bbls. oil and 30,000,000 ft. gas; pressure 1,073 lbs.; S.I.

Riverland O. & G. Co. No. 1-A Goebelt, NW SE SE sec. 12-6-6. Rig.

A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Rig.

Texas County

Allison & Barnhill No. 1 Bingley, SE SE NE sec. 30-2n-18. (Cimmaron Meridian Sd. 1,374-1,450 ft.; sd. 1,513-30 ft.; wtr.; drlg. 1,575 ft.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. Sdy. L. 910 ft.; cd. to 932½ ft.; setting 7-in. pipe.

ARKANSAS

Bradley County

Joe Modisette No. 1 Bird, N half NW NE sec. 28-16-12. Drlg. 4,125 ft.

Cleveland County

J. R. Lockhart No. 1 Ida Robertson, SE cor. sec. 36-10-11w. Drlg. 1,535 ft.

Columbia County

Buford & Co. No. 1 Kendrick, 330 ft. S and E, NW cor. SE¼ sec. 7-19-18. T.D. 5,417 ft.; rg. Schlumberger test in sand.

King Oil Co. No. 1 Kitchen et al, NE SE NW sec. 13-17-22. S.D. 2,714 ft.; fuel.

Dallas County

Walter Lown No. 1 G. Atkinson, NE NW SE sec. 7-10-13. Cg. 1,246 ft.

Grant County

Wallace & Staples No. 1 W. F. Davis. R.U.

Hempstead County

Easton et al No. 2 Conway-Tiller, 330 ft. N and E, SW cor. SW sec. 34-12-27. S.D. 3,001 ft., high water.

Imperial Oil & Gas Prod. Co. No. 1 Foster Estt., sec. 35-12-26. S.D. 3,683 ft.; W.C.

Stewart Oil Co. No. 1 fee, sec. 31-12-23. S.D. 3,655 ft.; W.O.

Little River County

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. S.D. 520 ft.

Miller County

Erwin & Leach No. 1 Red River Farms, sec. 2-17-26. Cg. 4,925 ft.

C. V. Lenz No. 7 Dale, O.W.D.D., sec. 24-15-26. T.D. 4,215 ft.; cg. oil sand; prep. set csg. and test.

Odell Hinson No. 1 Montana Realty Co., 330 ft. S and W NE NW NW sec. 3-17-28. T.D. 5,468 ft.; fsg. for D.P.

Nevada County

Benedum & Trees No. 1 Groves, C N half SE NW sec. 10-14-20. Comp.; pump 19 bbls. oil, 13 bbls. S.W. per hr.; sand 2,178-90 ft.

Benedum & Trees No. 2 Grove, NE SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 3 Grove, SW SE NW sec. 10-14-20. Drk.

L. M. Glasco No. 1 Ritchie Est., NW NW SE sec. 10-14-20. Drk.

Steel & Warmack No. 1 Wm. Haynil, SE SE NW sec. 6-14-21. S.D. 200 ft.

Ouachita County

J. D. Reynolds No. 2 M. V. Lenehon, NW SE SW sec. 36-15-16. Cg. 1,960 ft.

Pope County

Arkansas-La. No. 1 Smith, sec. 10-8n-21w. Drlg. 2,658 ft.

Pulaski County

G. L. Kilselman No. 1 fee, SE SE SW sec. 2-1-13. Drlg. 50 ft.

Union County

Penn-Ark. Corp. No. 1 W. N. Raulston, 330 ft. S and E. NW NW SE sec. 12-17-14. T.D. 2,560 ft.; M.I.H.R.

S.H.A. Oil Corp. No. 2 E. F. Gregory, SW NE SW sec. 10-17-14. O.W.D.D.; S.D. 3,438 ft.; prep. rg. csg.; showings oil and gas.

Tomblin & Gilbert No. 1 Taylor, sec. 27-19-15. M.I.M.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

Ambrose No. 1 Johnson Hrs., SW cor. Trk. No. 1 in street north of Blk. 5. Drk.

Ark.-La. Gas Co. No. 2 Teamer, NW SE SW sec. 13-23-16. Arg. set whipstock; T.D. 6,067 ft.

Blackwell O. & G. Co. No. 2 Wynn, sec. 8-23-15. Drk.

J. G. Collins No. 2 Caddo School Bd., sec. 8-23-15. Drlg. 2,250 ft.

W. C. Feazel and Kauns No. 1 Wynn, SE SW NE sec. 8-23-15. Cmt. 7-in. 6,015 ft.; T.D. 6,082 ft.; W.O.C.S.

David L. Harlin No. 1 W. D. Norton, NW cor. sec. 22-23-15. Loc.

Idessa Oil Co. No. 1 D. K. Sumner, NW SW SE sec. 10-23-15. Cg. 6,155 ft.

J. Edward Jones No. 1 M. Z. Sharp, 1,227 ft. N, 330 ft. E. SW cor. SE¼ sec. 4-23-16. Drlg. 5,474 ft.

La. Oil Rft. Co. No. 4 Ratcliff, NW cor. sec. 16-23-16. Comp.; flw. 40 B.P.H., ½-in. tb. ck.; T.D. 6,045 ft.

Lion Oil Co. No. 5 Wynn, 330 ft. N, 2,310 ft. E, SW cor. sec. 9-23-15. Drlg. 5,000 ft.

McAlester Fuel Co. No. 2 N. S. Tyson, C sec. 22-23-16. Est. 15,000,000 ft. gas; cmt. back to 5,990 ft. and perf.; tstg.; O.T.D. 6,016 ft.

R. W. Norton No. 1 Starke, SE SW sec. 16-23-16. Drlg. 5,636 ft.

R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Drlg. 3,785 ft.

Phillips Pet. Co. No. 2 Interstate, 330 ft. S and W, NE NW sec. 16-23-15. Drlg. 500 ft.

Phillips Pet. Co. No. 2 Rose McDonald, NW S½ NE sec. 17-23-15. Rg. csg.; T.D. 6,071 ft.

Phillips No. 1 Wilbanks, NE SW SW sec. 8-23-15. Perf. csg.; arg. swab; T.D. 6,082 ft.

Phillips Pet. Co. No. 4 Cora Woods, SE NW NE sec. 17-23-15. Comp. flw. 1,584 bbls. 24 hrs., ½-in. tb. ck.; T.D. 6,095 ft.

Snowden & Anding No. 3 Taylor, C W½, Lot 9, Blk. 46, sec. 23-23-16. Drlg. 5,050 ft.

Standard Oil of La. No. 1 Farmer, SW NW SW sec. 7-23-15. Drlg. 4,972 ft.

Tide Water No. 13 Sexton, SE SE SE sec. 14-23-16. O.W.D.D.; T.D. 6,066 ft.; tstg.

United Gas No. 4 fee, NW NW SE sec. 16-23-16. Drlg. 4,107 ft.

United Gas No. 5 Brewer Unit, SE SW NW sec. 21-23-16. Cg. 5,910 ft.

United Gas No. 3 Gibson Unit, 656 ft. N and E, SW SW NW sec. 15-23-16. Drk.

United Gas No. 4 Harris, NW NW SE sec. 15-23-16. Drlg. 500 ft.

United Gas No. 2 McCoy, 656 ft. N and W, SE SE NE sec. 16-23-16. Drlg. 1,736 ft.

United Gas No. 25 Rodessa Oil & Ld. Co., NE NW NE sec. 22-23-16. Comp.; flw. 37 B.P.H., ½-in. tb. ck.; T.D. 5,997 ft.

United Gas No. 26 Rodessa O. & Ld. Co., NW SW NE sec. 15-23-16. Drlg. 5,043 ft.

United Gas No. 5 W. B. Spearman, NW SW sec. 15-23-16. Drlg. 5,542 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Dunn and Olsen, C N½ NW¼ sec. 15-16-10. Drlg. 4,090 ft.

Bossier Parish

Ark-La Gas Co. No. 1 J. G. McDade, NW cor. sec. 8-17-11. Rg. 7-in. csg.; T.D. 4,293 ft.

Tidwell et al No. 1 Natting, sec. 15-22-14. Prep. set csg.; T.D. 2,971 ft.

United Gas No. 1-G H. L. Skannal, NE SE NE sec. 22-17-12. 9-in. set 3,238 ft.; T.D. 3,255 ft.

United Gas No. 1 Roos, NW cor. sec. 23-17-12. Comp.; 12,240,000 ft. gas; T.D. 5,210 ft.

Caddo Parish

C. C. Crews No. 2 Pender NW SW sec. 11-20-15. T.D. 2,202 ft.; prep. set csg.

W. D. Chew No. 1-D Levee Bd., NW SE NE sec. 34-21-16. T.D. 932 ft.; W.O.S.R.

W. D. Chew No. 2 Levee Bd., NE cor. sec. 5-20-16. T.D. 942 ft.; bailing to test.

Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. Loc.

Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E. SW cor. SE¼ sec. 11-17-15. T.D. 6,896 ft.; fsg. for D.S.

Matt M. Press No. 1 Keller, SE cor. sec. 10-20-15. 10-in. cmt. 101 ft.; W.O.C.S.

Producers O. & G. Co. No. 2 Currie, NE SE sec. 32-19-16. Cg. 950 ft.; D.S. 942-49 ft., dry.

Morefield & Prine No. 3 Stokeley, sec. 5-20-16. Drlg. 100 ft.

Prairie River Synd. No. 1 Hutchinson, 330 ft. N and E, SW NW sec. 15-15-12. T.D. 7,377 ft.; S.D.

Simplex No. 5 Natalie, SE W½ SE sec. 10-20-15. T.D. 2,170 ft.; acid and W.O.

Stanolind O. & G. Co. No. 112 Dillon hrs., 872 ft. S, 1,400 ft. E, NW SE sec. 14-21-15. T.D. 1,684 ft.; will acidize.

Stanolind O. & G. Co. No. 113 Dillon hrs., 655 ft. S, 744 ft. E, NW SE sec. 14-21-15. Drlg.

Stanolind O. & G. Co. No. 114 Dillon hrs., 65 ft. N, 816 ft. E, SW SE NE sec. 14-21-15. Loc.

Stewart-Williams No. 3 Iron, SW NE 10-20-15. T.D. 2,197 ft.; W.O.S.R.

Claiborne Parish

E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. D.S.T. 5,009-5,115 ft.; S.G.; drlg. 5,117 ft.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E. SW cor sec. 31-20-5. T.D. 3,616 ft., fshg. for D.P.

United Gas No. 1 A. P. Taylor, SE cor. sec. 5-19-5. Cg. 5,723 ft.

De Soto Parish

Fite et al No. 1 Ramsey, sec. 36-11-11. drlg. 1,700 ft.

Jal Drlg. Co. No. 1 Jenkins, SE SW SE sec. 35-13-12. Drlg. 2,460 ft.

Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. R.U.

Grant Parish

Arcadia Oil Co. No. 4-B Swope, 330 ft. N of No. 2-B, sec. 17-9-1e. R.U.

Cane River Prod. Co. No. 1 Swope, SW NW sec. 17-9-1e. Drlg. 1,050 ft.

Grant Oil Co. No. 2 Swope, SE NE SW sec. 17-9-1e. Drlg. 785 ft.

Pet. Prod. Co. No. 1 Buffington, SE NE sec. 18-9-1. T.D. 1,608 ft.; W.O.S.R.

Perry et al No. 1 Barrett, 150 ft. N and W, SE NE SE sec. 17-9-1e. T.D. 1,604 ft.; 6-in. 1,583 ft.; W.C.C.S.

LaSalle Parish

Urania Oil & Gas No. 1 Urania, NW cor. sec. 7-10-2. S.D. 300 ft.

Waller et al No. 1 Pendarnis, NE SW SE sec. 26-10-1e. Cg. 1,605 ft.

Morehouse Parish

So. Carbon Co. No. 17 Tensas, NE cor. sec. 4-20-4. R.U.

United Carbon Co. No. 7 Stovall, NW cor sec. 27-21-4. Cmtg. 6-in. 2,081 ft.; W. O.C.S.

Natchitoches Parish

Union Pet. Co. No. 2 DeBlieux, 2,395 ft E. 150 ft. S of W cor. sec. 83-10-7w S.D. 3,841 ft.

Ouachita Parish

United Carbon No. 7 Neston, NE cor. sec. 32-19-4e. R.U.

Red River Parish

Hyrd Exp. Co. No. 1 Edge, SW NE sec. 29-13-11. Hole clean; T.D. 2,499 ft.; W. O.S.R.

W. J. Hunter No. 1 Long Bell Lbr. Co., sec. 19-13-9. Tstd. S.W. after P.B. 3,-696 ft. and drlg. out; T.D. 3,734 ft.; W.O.

Perla Oil Co. No. 1 DeLong, 330 ft. S and E. C sec. 33-12-10. Drlg. 1,135 ft.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al sec. 32-17-6e. Drlg. 8,010 ft.

Sabine Parish

Blue Lake Oil Co. No. 1 Delaney & Wheless, NW SW sec. 31-9-13. Drlg. 1,567 ft.

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. Comp.; would not pmp.; D.&A.; T.D. 2,055 ft.

F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. Drlg. plug and blew out; closed in and installing gate valves; T.D. 5,503 ft.

Ellis Prod. Co. No. 1 Small, SE NW SE sec. 24-7-11. S.D. 3,100 ft.

J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 5-13-13. Acidized; W.O.S.R.

Posey Sisters Oil Co. No. 3 Burkett, NE cor. sec. 10-9-13. S.D. 3,234 ft.

Union Parish

So. Carbon Co. No. 13 Grayling, SE cor. sec. 5-21-4e. 6-in. cmt. 2,076 ft.; W.O. C.S.

So. Carbon Co. No. 14 Grayling, SE cor. sec. 5-21-4e. R.U.

So. Carbon Co. No. 15 Grayling, SW cor. sec. 4-21-4e. Comp.; gauged 4,000,000 ft. gas; 930 lbs. R.P.; T.D. 2,188 ft.

Webster Parish

Magnolia Pet. Co. No. 5 J. Cox, SW SE sec. 23-21-10. Drlg. 6,295 ft.

R. W. Norton No. 2 Josey & Massey, C W½ NE NW sec. 27-21-10. Clearing loc.

Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. 10-in. set 90 ft.; W.O.C.S.

Ohio Oil Co. No. 1 R. M. Coyle, NE SE sec. 22-21-10. Drlg. 6,576 ft.

Ohio Oil Co. No. 1 Bodcaw Lbr. Co., C NE SE sec. 28-21-10. Drlg. 6,683 ft.

Seaboard Oil Corp. No. 1 Cotton Valley Ld. & Lbr. Co., NW SW sec. 35-22-10. Rng. 15½-in.; drlg. 2,260 ft.

Tide Water No. 1 L. Pipes, NE SE sec. 10-18-10. M.I.

United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. Cg. 6,470 ft.

United Gas No. 1 Mixon, SE SW sec. 22-21-10. Cg. 6,642 ft.

Woodley Pet. Co. No. 2-A L. C. Cox, SW NE sec. 22-21-10. Drlg. 5,617 ft.

Woodley Pet. Co. No. 2-B L. C. Cox, cen SW SW sec. 23-21-10. Drlg. 3,280 ft.

Winn Parish

C. A. Cline No. 1 Collingsworth, SW SE SE sec. 14-10-6w. Drk.

SOUTH LOUISIANA FIELDS

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 35 Watkins, sec. 8-12s-12w. Cg.sandstone 5,207 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 43 State, sec. 20-23s-20e. Abd. 4,432 ft.

Texas Co. No. 45 State, sec. 20-23s-20e. T.D. 3,879 ft.; 7⅝-in. csg. 3,833 ft.; I.P. 1,773 B.P.D. through ¼-in. ck.

Charenton—St. Mary Parish

Mike Hogg et al No. 1 Laws Realty Co., sec. 30-13s-10e. R.U.

Mike Hogg No. 1 State, sec. 5-13s-9e. Abd. 8,007 ft.

Choctaw—Iberville Parish

Standard Oil Co. No. 1 Wilbert, sec. 53-9s-11e. T.D. 2,705 ft.; 5-in. csg. 2,691 ft.; drlg. plug; no report.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 15 Sch. Ld., sec. 16-14s-13w. Drlg. sh. 3,180 ft.

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Rng. 10¾-in. csg.; T.D. 961 ft.

Magnolia-Humble No. 18 Cameron Meadows, sec. 21-14s-13w. T.D. 3,437 ft.; 9⅝-in. csg. 3,421 ft.; sanded up; pulling screen.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-10s-2e. Drk.

Humble O. & R. Co. No. 13 Humble Community, sec. 33-10s-2e. T.D. 4,423 ft.; P.B. and sdtrkg.; top salt 5,178 ft.; T.D. 5,254 ft.; P.B. 2,114 ft.; top salt 5,672 ft.; T.D. 5,682 ft.; P.B. 4,465 ft.; 7-in. csg. 4,458 ft.; tstd. 4,349-55 ft.; no show; pulling screen.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. Drlg sh. 6,437 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 14 Castle sec. 13-9s-8w T.D. 7,050 ft.; perf. csg. 7,040-46 ft.; tstg.

Fohs Oil Co. No. 15 Castle, sec. 13-9s-8w T.D. 7,070 ft.; 7-in. csg. on bottom; I.P. 167 B.P.D. through 10/64-in. ck.

Fohs Oil Co. No. 3 Ada Mays, sec. 14-9s-8w. Drk.

Union Sulphur Co. No. 10 Barbe, sec. 1-9s-8w. Drlg. sh. 6,734 ft.

Union Sulphur Co. No. 11 Barbe, sec. 1-9s-8w. Loc.

Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. Loc.

Union Sulphur Co. No. 2 Bel, sec. 12-9s-8w. T.D. 6,788 ft.; P.B. 5,600 ft.; fsg. 5,758 ft.

Union Sulphur Co. No. 3 Kaufman, sec. 13-9s-8w. Drlg. sd. 7,629 ft.

Union Sulphur Co. No. 10 Powell, sec. 29-7s-2w. T.D. 6,758 ft.; tstg.

Union Sulphur Co. No. 11 Powell, sec. 12-9s-8w. Loc.

Union Sulphur Co. No. 13 State, sec. 12-9s-8w. Drk.

Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 22 Erwin, sec. 12-12s-10w. Drlg. sd. and bldrs. 1,460 ft.

Harrison and Abercrombie No. 1 Verdine, sec. 36-12s-10w. 16-in. csg. 62 ft.; drlg. sh. 3,286 ft.

Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. S.D. 865 ft.

Stanolind O. & G. Co. No. 5 Carter-Severing, sec. 22-12s-10w. T.D. 3,909 ft.; I.P. 42 B.P.H.; ¼-in. ck.

Stanolind O. & G. Co. No. 3 Duhon, sec. 22-12s-10w. Drlg. sh. 1,274 ft.

Stanolind O. & G. Co. No. 24-B Gulf Ld sec. 14-13s-10w. T.D. 6,157 ft.; P.B. 3,817 ft.; sdtrkd. 4,091 ft.; drlg. sh. and L. 5,030 ft.

Stanolind O. & G. Co. No. 7-A School Ld., sec. 16-12s-10w. 10¾-in. csg. 1,969 ft.; T.D. 5,740 ft.; P.B. and S.T. 3,185 ft.; drlg. sd. and sh. 3,236 ft.

Superior Oil Prod. Co. No. 1 Hebert, sec. 33-12s-10w. P.B. and sdtrkd. 775 ft.; drlg. sd. 3,620 ft.

Texas Co. No. 21 State, sec. 12-12s-10w. Drk.

Texas Co. No. 19-B State, sec. 13-12s-9w. T.D. 6,227 ft.; abd.

Iowa—Cameron Parish

Shell Pet. Corp. No. 21 Heyd, sec. 13-9s-7w. T.D. 5,116 ft.; pulling tstg. tool.

Jeanerette—St. Mary Parish

Stacey Doran et al No. 1 Eaves, sec. 70-13s-9e. Drk.

Herton Oil Co. No. 1 Barrileau, sec. 59-13s-8e. P.B. T.D. 6,700 ft.; perfd. csg. 6,680-88 ft.; P.B. and sdtrkd. at 5,500 ft.; T.D. 6,682 ft.; rng. 5⅝-in. csg.

Herton Oil Co. No. 4 Roane, sec. 40-13s-9e. Drlg. sh. 3,987 ft.

Jennings—Acadia Parish

Ray Croft No. 2 Houssiere-Latrille, sec. 47-9s-2w. T.D. 1,725 ft.; swbg.

Shell Pet. Corp. No. 2 Community, sec. 40-9s-2w. Drlg. sh. 3,955 ft.

Stanolind O. & G. Co. No. 6 Houssiere-Latrelle, sec. 47-9s-2w. Cg. sd. 7,492 ft.

Superior Oil Prod. Co. No. 1 Crawley, sec. 42-9s-2w. Drlg. sd. and sh. 5,398 ft.

Superior Oil Prod. Co. No. 1 Jennings-Heywood, sec. 41-9s-2w. Drlg. sd. 4,910 ft.

Lafitte—Jefferson Parish

Texas Co. No. 5 Rigolettes, sec. 29-17s-24e. T.D. 10,942 ft.; stuck pipe while rmg. at 10,932 ft.; milling on junk at 7,087 ft.

Texas Co. No. 6 Lafitte, sec. 20-17s-24e. Dig canal.

Texas Co. No. 1 R. C. Milling, sec. 20-17s-24e. Drlg. sd. and L. 6,759 ft.

Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. Dig canal.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State. T.D. 7,948 ft.; fsg.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6, LaFourche, sec. 11-8s-25e. Drlg. sh. 2,537 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sd. and sh. 5,875 ft.

Leesville—LaFourche Parish

Carter-Michael No. 1 E. S. Bernard, sec. 26-21s-22e. Drk.

Gulf Oil Corp. No. 4 City of New Orleans, sec. 26-21s-22e. Drlg. sh. 2,007 ft.

Texas Co. No. 50 Leesville, sec. 34-21s-22e. Drlg. sh. 3,630 ft.

Texas Co. No. 51 Leesville, sec. 34-21s-22e R.U.

Texas Co. No. 52 Leesville, sec. 34-21s-22e T.D. 4,466 ft.; I.P. 48 B.P.D.

New Iberia—Iberia Parish

Crysanthon et al No. 1 Gulf fee, sec. 71-12s-7e. T.D. 6,720 ft.; fsg. for screen.

H. Fostiades No. 3 Gulf Ld., sec. 25-12s-7e. R.U.

Wm. Hellis No. 4 Boliver, sec. 56-12s-7e. R.U.

Wm. Hellis No. 3 Bullock, sec. 52-12s-7e. Drlg. sh. 2,202 ft.

Wm. Hellis No. 3 Sabatier, sec. 54-12s-7e. T.D. 2,850 ft.; W.O.C.

Wm. Hellis No. 2 Schwing, sec. 56-12s-7e. Drlg. sh. 6,354 ft.

Kitos et al No. 3 Sealy, sec. 36-12s-7e 9⅝-in. csg. 874 ft.; S.D.

Texas Co. No. 1 Clementine, sec. 25-12s-1e. Drlg. sh. 7,257 ft.

Texas Co. No. 1 Gragleano, sec. 25-12s-7e. 10¾-in. csg. 62 ft.; T.D. 4,024 ft.; 7-in. csg. 3,975 ft.

Texas Co. No. 3-B Hanzen, sec. 54-12s-7e T.D. 4,453 ft.; P.B. and S.T.; drlg. sd. and L. 4,392 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 5-B Devilbiss, sec. 11-9s-4w. T.D. 8,500 ft.; fsg.

Shell Pet. Corp. No. 6 Kratzer, sec. 12-9s-4w. 10¾-in. csg. 2,454 ft.; drlg. sh. 6,-175 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Garland sec. 4-6s-5e. 7-in. csg. 3,540 ft.; comp.; no gauge.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 6 United Ld. Co., sec. 15-10s-4e. Abd.; salt 4,300 ft.

St. Martinsville—St. Martin Parish

Continental Oil Co. No. 1 fee, sec. 57-11s-6e. 13⅜-in. csg. 1,387 ft.; drlg. sh. 7,-640 ft.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Lutcher-Moore, sec. 19-9s-12w. T.D. 4,204 ft.; rng. csg.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 834 fee, sec. 20-9s-10w. T.D. 4,469 ft.; P.B. 2,327 ft.; drlg. sh. and L. 2,694 ft.

Union Sulphur Co. No. 836 fee, sec. 20-9s-10w. Drlg. sh. 3,723 ft.

Union Sulphur Co. No. 837 fee, sec. 20-9s-10w. Drlg. sh. 3,999 ft.

Union Sulphur Co. No. 838 fee, sec. 20-9s-8w. Drlg. sd. 3,057 ft.

Union Sulphur Co. No. 841 fee, sec. 29-9s-8w. Loc.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 Ardoin, sec. 21-7s-2w. T.D. 8,300 ft.; fsg.

Continental Oil Co. No. 7-A Homeseekers, sec. 29-7s-2w. T.D. 8,617 ft.; rng. 7-in. csg.

Continental Oil Co. No. 8-A Homeseekers Dev. Co., sec. 29-7s-2w. Loc.

Continental Oil Co. No. 1 L. J. Ortego, sec. 29-7s-2w. Drk.

Continental Oil Co. No. 1-B Veronie, sec. 28-7s-2w. T.D. 8,307 ft.; I.P. 173 bbls. in 18 hrs. through 3/16-in. ck.

Continental Oil Co. No. 1-B Young, sec. 29-7s-2w. T.D. 8,316 ft.; 5⅝-in. csg. 8,-310 ft.; I.P. 139 B.P.D. through 3/16-in. ck.

Continental Oil Co. No. 2-B Young, sec. 29-7s-2w. R.U.

Vinton—Calcasieu Parish

Vinton Pet. Co. No. 9 Harmong, sec. 34-10s-12w. R.U.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. Drlg. sh. 4,412 ft.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w S.D. 5,047 ft.

Humble O. & R. Co. No. 1 Nordyke, sec. 23. R.U.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,-766 ft.; shot well; failed to stop flwg. S.W.

Avoyelles Parish

Frost Oil Co. No. 1 Hines Lumber Co., 3-3n-4e. Drk.

George Conover No. 1 Purdy Heff, sec. 36-2n-3e. Drk.

Calcasieu Parish

Wilfred Lahaye No. 1 Bass, sec. 9-10s-12w. S.D. 80 ft.

Cameron Parish

Magnolia Pet. Co. No. 1, Johnson Bayou, sec. 16-15s-14w. Drlg. sh. 8,402 ft.

Magnolia Pet. Co. No. 1 Raymond Leban sec. 13-12s-9w. 13⅜-in. csg. 3,262 ft.; drlg. sd. 7,292 ft.

Pure Oil Co. No. 1, Mallard Bay, sec. 32-13s-3w. 18⅝-in. csg. 1,499 ft.; drlg. sdy. sh. 5,978 ft.

Southern Sulphur Co. No. 2 State, sec. 39-15s-10w. S.D. 250 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 48-8s-2e. T.D. 5,655 ft.; washing over D.S.

Cavalier Oil Co. No. 1 Young, sec. 62-4s-2w. Drk.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 17-1s-1w. Spudded 15 ft. and S.D.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 1 Wilbert, sec. 67-9s-11e. 16-in. csg. 173 ft.; T.D. 3,108 ft.; P.B. 2,380 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 409 Lake Pigneur, Twp. 12s-3e. T.D. 8,650 ft.; fsg.

Jefferson Lake Oil Co. No. 411 Lake Pigneur, Twp. 12s-3e. S.D. 4,698 ft.

Texas Co. No. 1-B State, Vermillion Bay, sec. 16-15s-6e. T.D. 9,122 ft.; fsg.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 138-12s-11e. S.D. 705 ft.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Joe Sturdivant, sec. 25-10s-4w. 10¾-in. csg. 2,616 ft.; T.D. 9,747 ft.; tried to blow out; will run protection csg.

Stanolind O. & G. Co. No. 1 C. E. Britt, sec. 15-10s-3w. 9⅝-in. csg. 8,842 ft.; T.D. 9,944 ft.; D.S. stuck; P.B. and sdtrkd. drld. into old hole at 9,007 ft.; P.B. 8,-659 ft.; I.P. 4 bbls. of distillate per hr. through 3/16-in. ck.; T.P. 3,300 lbs.

Lafourche Parish

Wm. Helis No. 1 City of New Orleans, sec. 19-23s-23e. Drlg. sh. 2,630 ft.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 25-32s-19. Drlg. sh. 2,730 ft.

Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. Drlg. sh. 2,890 ft.

St. Bernard Parish

John Cartwright No. 1 Meraux Nunez, sec. 19-13s-12e. T.D. 6,501 ft.; washing to bottom; no report.

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. sh. 2,430 ft.

Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. S.D. 42 ft.

St. James Parish

Shell Pet. Corp. No. 2 Colonial Sugar, 4,-800 ft. N of No. 1, sec. 15-12s-5e. Drlg. sh. and L. 6,783 ft.

St. Landry Parish

Stanley Thompson No. 1 Lewis, sec. 29-5s-6e. Drlg. sh. 2,600 ft.

Superior Oil Prod. Co. No. 1 Savoie, sec. 26-8s-3e. Drlg. sh. and sd. 2,417 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hefia Ld. Co., sec. 38-8s-5e. T.D. 1,962 ft.; W.O.C.

Texas Co. No. 1 Bayou Sale, sec. 23-17s-9e. Sh. 3,830 ft.; no report.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. Sd. 8,288 ft.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. Drlg. sh. 7,372 ft.

Shell Pet. Corp. No. 1-B Realty, sec. 18-17s-15e. R.U.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert sec. 20-12s-3e. T.D. 11,732 ft.; circulating with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,680 ft.; set cmt.; P.B. to 10,800 ft.; sdtrkd. at 10,800 ft.; drlg. sh. 10,887 ft.

Delcambre & Shelton No. 1 Delcambre sec. 63-12s-6e. S.D. 2,708 ft.

Del-Shell Exploration Co. No. 1 Landry hrs., sec. 1-13s-4w. Abd. 2,704 ft.

Louisiana Land & Expl. Co. No. 1 La. Fur Co., sec. 16-16-1e Bldg. foundations

Stanolind O. & G. Co. No. 1 Fred Stovall 13⅜-in. csg. 1,980 ft.; drlg. sh. 5,015 ft.

TEXAS

Week Ending November 14

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 3 Duncan, Brazos River Bed Sur. Drlg. sh. 2,018 ft.

Humble O. & R. Co. No. 6-C Grawunder, Wm. C. White Sur. T.D. 4,110 ft.; 7-in. csg. 4,066 ft.; I.P. 56 B.P.D.; pmpg.

Humble O. & R. Co. No. 8-B Hardy, R. Hardy Subd. 9⅝-in. csg. 1,150 ft.; abd. 4,165 ft.

Humble O. & R. Co. No. 5-X Jackson, Wm. C. White Sur. Drlg. rk. 1,050 ft.

Humble O. & R. Co. No. 9 Wilson, Wm. Harvey Sur. T.D. 4,191 ft.; P.B. 3,598 ft.; prep. to pmp.

Hastings—Brazoria County

W. L. Goldson No. 2 fee, B.B.B.&C. Sur. Drlg. sh. 3,839 ft.

Humble O. & R. Co. No. 4 Brown, W. H. Snyder Sur. T.D. 6,075 ft.; P.B. 6,020 ft.; 5¾-in. csg. 5,995 ft.; I.P. 13 B.P.H.; killed well; pulling screen and lnr.

Humble O. & R. Co. No. 6 Brown, W. H. Snyder Sur. 10¾-in. csg. 1,622 ft.; T.D. 6,020 ft.; oil sd.

Humble Oil & Ref. Co. No. 1 King, H.T.&B. Sur. Drk.

Showers and Moncrief No. 1 L. Hughey, C of 10-ac. tr., H.T.&B. Sur. No. 29. R.U.

Stanolind O. & G. Co. No. 1 Floyd Brown H.T.&B. Sur. No. 29. 10¾-in. csg. 1,846 ft.; T.D. 6,080 ft.; 7-in. csg. 5,913 ft.; I.P. 362 B.P.D. through ¼-in. ck.

Stanolind O. & G. Co. No. 6 Drake, H.T.& B. Sur. No. 36. R.U.

Stanolind O. & G. Co. No. 1 Land, H.T.& B. Sur. No. 29. Drk.

Stanolind O. & G. Co. No. 1 Margaret Kidd, B. T. Masterson Sur. T.D. 6,060 ft.; 7-in. csg. 5,995 ft.; W.O.C.

Stanolind O. & G. Co. No. 5 Ford A.C.H & B. Sur. No. 1. 16-in. csg. 90 ft.; T.D. 110 ft.

Stanolind O. & G. Co. No. 1 McRibbon, H.T.&B. Sur. No. 29. 10¾-in. csg. 1,850 ft.; T.D. 6,080 ft.; rng. 7-in. csg.

Stanolind O. & G. Co. No. 2 Scott, T.H.& B. Sur. No. 29. Drk.

Stanolind O. & G. Co. No. 1 Sheffield, H. T.&B. Sur. No. 29. Drk.

Stanolind O. & G. Co. No. 7 Williams, A.C. H.&B. Sur. No. 1. Drlg. sh. 5,645 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 K. M. Gibson, J. W. Hall Sur. Spudded.

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. Drlg. 300 ft.

Gulf Oil Co. No. 2-A Wilkes and Smith, J. Robinson Sur. T.D. 6,546 ft.; P.B.; T.D. 6,368 ft.; I.P. 465 bbls.; 26.9 grav. oil per day through ¼-in. ck.; W.P. 1,800 lbs.; shut-in C.P. 2,500 lbs.

Manvel—Brazoria County

Bowles & Borsodi No. 4 Norvell Co., Inc., H.T.&B. Sur. No. 23. R.U. and S.D

Burton Drlg. Co. No. 1 Bankers Mortgage, E. Little Sur. T.D. 4,050 ft.; rng. 7-in. csg.; I.P. 326 B.P.D. through ¼-in. ck.

Harrison & Abercrombie No. 3 Lewellen, Lot 15, A.C.H.&B. Sur. R.U.

Harrison & Abercrombie No. 4 Lewellen, A.C.H.&B. Sur. T.D. 5,686 ft.; I.P. 330 B.P.D. through ¼-in. ck.

Sterling Oil & Ref. Co. No. 1 Hamilton, E. Little Sur. T.D. 4,060 ft.; 7-in. csg. 3,966 ft.

E. A. Stone No. 1 Nichols, E. Little Sur. Drk.

Texas Co. No. 1 A. Ellis, H.H. Little Sur. Old T.D. 5,738 ft.; sdtrkd. 3,539 ft.; drld. to 4,091 ft.; T.D.

Texas Co. No. 6 Rash, T. Spraggins Sur. T.D. 4,163 ft.; P.B. 4,100 ft.; 7-in. csg. 4,105 ft.; I.P. 154 B.P.D. through ¼-in. ck.; T.P. 440 lbs.

Texas Co. No. 3-B Wray, T. Spraggins Sur. Drlg. sand 4,200 ft.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 3 Bernard River, Charles Breen Sur. Drlg. sh. 550 ft.

West Columbia—Brazoria

Sterling O. & G. Co. No. 1 J. A. Phillips, Geo. Kennilee Sur. Drk.

Texas Co. No. 14 Abrams, George Tenille League Sur. T.D. 4,658 ft.; abd.

Heyser—Calhoun County

Humble Oil & Ref. Co. No. 3 Welder, J. M. Rios Sur. T.D. 5,474 ft.; 7-in. csg. on bottom; swbd.; would not flow; reset screen; tstg.

Humble O. & R. Co. No. 4 E. H. Welder, J. M. Rios Sur. Drk.

Humble O. & R. Co. No. 5 P. H. Welder, A. Sisneros Sur. Drk.

Humble Oil & Ref. Co. No. 5 P. H. Welder, J. N. Rios Sur. T.D. 5,496 ft.; 7-in. csg. on bottom; I.P. 9 B.P.H. through 3/16-in. ck.; T.P. 500 lbs.

Portilla Oil Co. No. 2 P. H. Welder, A. Sisneros Sur. Drlg. sh. 4,639 ft.

Portilla Oil Co. No. 1-C P. H. Welder, A. Sisneros Sur. Drlg. sh. 450 ft.

Anahuac—Chambers County

Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.

Gulf Oil Corp. No. 4 Knowles, sec. 48, H. &T.C. Sur. 7-in. csg. 7,081 ft.; P.B. 6,891 ft.; set second whipstock at 6,833 ft.; cg. for sd.

Gulf Oil Corp. No. 5 Knowles, sec. 48, H. &T.C. Sur. Drk.

Humble O. & R. Co. No. 5 Engels, sec. 50, H.&T.C. Sur. 9⅝-in. csg. 1,541 ft.; drlg. sh. 5,080 ft.

Gulf Oil Corp. No. 1 Pommer, sec. 46. Drlg. 2,400 ft.

Humble O. & R. Co. No. 3 Shaver, sec. 53, H.&T.C. Sur. Drlg. sh. and L. 6,361 ft.

Humble O. & R. Co. No. 6-B White, James McGahey Sur. Drlg. sh. 1,550 ft.

Humble O. & R. Co. No. 15 White, J. McGahey Sur. T.D. 7,045 ft.; 5½-in. csg. 7,013 ft.; flwd. 12 B.P.H.; killed well; fsg.

Sun Oil Co. No. 2 Myra White, James McGahey Sur. Drk.

Sun Oil Co. No. 23 White, J. McGahey Sur. T.D. 7,124 ft.; swbg.

Cotton Lake—Chambers County

R. W. Fair No. 1 Ben Dutton, A. B. J. Winfree Sur. R.U.

Glenn H. McCarthy No. 5 Kilgore, J. Townsend Sur. R.U.

Humble O. & R. Co. No. 1, Howard Winfree Sur. 10¾-in. csg. 1,075 ft. T.D. 6,311 ft.; 7-in. csg. 6,309 ft.; P.B. 6,291 ft.; I.P. 3 B.P.H. through ¼-in. ck.

Humble O. & R. Co. No. 2 Howard, Winfree Sur. Loc.

Glenn H. McCarthy No. 1 Kirby, Chambers Co. Sch. Ld. Co. Sur. Drlg. sh. 6,200 ft.

Salt Dome Oil Co. No. 1-A Lawrence, Solomon Barrow Sur. Drk.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 4 State, due S of Sun Oil Co. No. 1 Chambers in Turtle Bay. Drk.

Sun Oil Co. No. 2 Chambers, M. A. Carroll Sur. 16-in. csg. 111 ft.; T.D. 6,602 ft.; 7-in. csg. 6,575 ft.

Big Creek—Fort Bend County

Texas Oil Co. No. 3 Byron, M. Young Sur. T.D. 3,736 ft.; 7-in. csg. 2,850 ft.; P.B. 2,740 ft.; milling out of csg.

H. L. Patton No. 1 Bryan M. Young Sur. T.D. 1,745 ft.; swbd. S.W.; S.D.

Thompson Drlg. Co. No. 1 W. C. Moore, B. Wickerson Sur. Drlg. sh. 3,439 ft.

Blue Ridge—Fort Bend County

Barnett Pet. Co. No. 1-B Blakely, Lot 7 Blk. E. Drew Sur. Cg. sd. and sh. 3,712 ft.

Mills Bennett Prod. Co. No. 5 Lusher, T. Habermacher Sur. Drlg. sh. 2,115 ft.

Texas Gulf Prod. Co. No. 14-B Blakely, J. Poitivent Sur. Drlg. sd. and sh. 4,175 ft.

Boling—Fort Bend County

Mack Hank Oil Co. No. 2-A Farmer, J. Scott Sur. T.D. 4,433 ft.; P.B. and sidetracked; drlg. sh. 2,616 ft.

H. K. Spear et al No. 1 Kasperek Simon Miller Sur. 7-in. csg. 3,960 ft.; T.D. 4,015 ft.; P.B. 3,882 ft.; swbd. S.W.; S.D.

Orchard—Fort Bend County

Gulf Oil Corp. No. 48 Moore & Frazier Sur. T.D. 3,685 ft.; making D.S.T.

Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. R.U.

Thompson-Fort Bend County

Robert Eikel No. 1 J. W. Hempel, S. Kennedy Sur. Cmtd. 5-in. csg. 5,336 ft.; T.D. 5,408 ft.; I.P. 140 B.P.D.; pmpg.

Sterling O. & R. Co. No. 2 Booth, H. Christmas Sur. T.D. 5,401 ft.; 7-in. csg. 5,350 ft.; pulled screen; swbd. S.W.; S.D.

High Island—Galveston County

Stanolind O. & G. Co. No. 9-B Cade, M. Dunman Sur. T.D. 5,247 ft.; 7-in. csg. on bottom; perf. csg.; tbg. sanded up; reset screen.

Stanolind O. & G. Co. No. 58 Cade, N. Fitzsimmons Sur. Drlg. sd. and sh. 5,108 ft.

Stanolind O. & G. Co. No. 59-A M. Fitzsimmons Sur. Drlg. wtr. sd. 4,477 ft.

Dickinson—Galveston County

Coast Pet. Co. No. 4 Stewart, W. K. Wilson Sur. T.D. 8,350 ft.; rng. csg.

Humble O. & R. Co. No. 1 Boone, W. K. Wilson Sur. 16-in. csg. 213 ft.; T.D. 8,061 ft.; P.B. 8,055 ft.; 7-in. csg. 8,058 ft.; tstg. from 8,045-52 ft.

Humble Oil & Ref. Co. No. 12-A Stewart, W. K. Wilson Sur. Drlg. sh. 2,036 ft.

Humble O. & R. Co. No. 11-A Stewart, A. Edwards Sur. 10¾-in. csg. 1,996 ft.; T.D. 8,766 ft.; 7-in. csg. 8,758 ft.; perf. csg. 8,668-72 ft.; I.P. 9 B.P.H. through ¼-in. ck.; T.P. 3,000 lbs.

Kenco Corp. No. 1 Stran, J. S. Sherman Sur. 16-in. csg. 195 ft.

Pen American Prod. Co. No. 2 Craig, W. K. Wilson Sur. T.D. 8,620 ft.; tstg.

Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.

Smith and MacDannald No. 1 Shelar, J. O. Jones Sur. 16-in. csg. 120 ft.; 10¾-in. csg. 981 ft.; T.D. 8,035 ft.; oil sd.; 7-in. csg. 7,985 ft.; tstd. S.W.; cutting and pulling screen.

Greens Lake—Galveston County

Sun Oil Co. No. 4 Hughes, W. C. M. Baker Sur. T.D. 5,005 ft.; abd.

Sun Oil Co. No. 5 Hughes, W. M. C. Baker Sur. Drk.

Arriola—Hardin County

Republic-Houston Oil Co. No. 14 fee, E. Arriola Sur. 13⅜-in. csg. 835 ft.; T.D. 3,285 ft.; 9⅝-in. csg. 3,270 ft.; fsg. for rods and tbg.

Republic Prod. Co. No. 15 fee, E. Arriola Sur. Spudded.

Batson—Harding County

Deering et al No. 5 Hooks, Donoho Sur. R.U.

Deering et al No. 4 W. W. Cruse, F. H. Green Sur. T.D. 5,506 ft.; 7-in. csg. 5,489 ft.; swbg. S.W., some oil.

Fairbanks—Harris County

Amerada Pet. Corp.-Stanolind O. & G. Co. No. 1-A Dopslauf, A. Fry Sur. Drlg. sh. 5,340 ft.

Goose Creek—Harris County

Humble O. & R. Co. No. 110 Gaillard, Wm. Scott Sur. T.D. 1,265 ft.; 7-in. csg. 1,248 ft.; I.P. 6 bbls. of net oil per hr.; 60% S.W.

Mykawa—Harris County

Flanagan Oil Co. No. 1 M. J. Cowherd, Lot 260, Wm. Lovett Sur. T.D. 4,853 ft. 7-in. csg. 4,780 ft.; T.D. 4,862 ft.; R.U. to pmp.

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

South Houston—Harris County

E. A. Showers No. 2 Tate, H.T.&B. Sur. No. 6. Spudded.

Stanolind O. & G. Co. No. 1, Dist. No. 7, H.T.&B. Sur. No. 6. 9⅝-in. csg. 1,485 ft.; T.D. 4,000 ft.

Stanolind O. & G. Co. No. Drlg. Dist. No. 47. 10¾-in. csg. 1,451 ft.; W.O.C.

Stanolind O. & G. Co. No. 1, District No. 11. 10¾-in. csg. 1,449 ft.; drlg. sh. 4,050 ft.; rng. 5½-in. csg.

Stanolind Oil & Gas Co. No. 2 Howard, Tr. 30, H.T.&B. Sur. No. 6. T.D. 4,000 ft.; 5½-in. csg. 3,916 ft.; I.P. 391 B.P.D. through ¼-in. ck.

Tomball—Harris County

Duffie Smith-Koury No. 1 Hillegeist, J. Houst Sur. 10¾-in. csg. 610 ft.; S.D. 5,639 ft.

Humble Oil & Ref. Co. No. 1 Briggs, E. Smith Sur. 10¾-in. csg. 947 ft.; T.D. 5,558 ft.; 7-in. csg. 5,554 ft.

Humble O. & R. Co. No. 5 H. S. Gebhard, W. Perkins Sur. Drk.

Humble O. & R. Co. No. 3 Mahaffey, J. Pruitt Sur. 10¾-in. csg. 924 ft.; T.D. 5,567 ft.; I.P. 50 B.P.D. on gas-lift.

Humble Oil & Gas Co. No. 1 Patterson, J. Pruitt Sur. T.D. 5,566 ft.; 7-in. csg. 5,559 ft.; I.P. 317 B.P.D. through ¼-in. ck.

Humble O. & R. Co. No. 8-A Quillter, A. Senschal Sur. T.D. 5,557 ft.; 5½-in. csg. 5,548 ft.; W.O.C.

Humble O. & R. Co. No. 15 J. D. Reid, C. Goodrich Sur. R.U.

Humble O. & R. Co. No. 1 C. Rudel, J. Pruitt Sur. T.D. 5,573 ft.; 7-in. csg. 5,561 ft.; swbg.

Humble O. & R. Co. No. 1 Tomball Townsite, 9⅝-in. csg. 936 ft.; drlg. sh. and L. 4,273 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Phelan, C. Williams Sur. Drlg. sdy. sh. 230 ft.

Humble O. & R. Co. No. 1 Tyrell Combest, C. Williams Sur. 10¾-in. csg. 1,991 ft.; top sd. 6,735 ft.; 7-in. csg. 6,771 ft.; T.D. 6,794 ft.; P.B. 6,780 ft.; perf. csg. 6,775-78 ft.; I.P. 6 B.P.H. through ¼-in. ck.

Glenn H. McCarthy No. 2-B Longe, H. Williams Sur. Drlg. sh. 500 ft.

Glenn H. McCarthy No. 1-H Longe, H. Williams Sur. T.D. 6,106 ft.; 5½-in. csg. 6,100 ft.; showed high gas-oil ratio; recompleting.

Stanolind Oil & Gas Co. No. 1 Sarge, H. Williams Sur. T.D. 1,798 ft.; rng. 10¾-in. csg.

Texas Co. No. 1 Yount, A. Houston Sur. 10-in. csg. 1,236 ft.; drlg. soft sd. 8,045 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. R.U.

Fannett—Jefferson County

Gulf Oil Corp. No. 19 Thomas, W. H. Smith Sur. T.D. 3,517 ft.; 7-in. csg. 3,487 ft.; comp.; no gauge.

Nome—Jefferson County

Shell Pet. Corp. No. 2 Carpenter, M. E. Pevoto Sur. T.D. 6,024 ft.; making D.S.T.

Sun Oil Co. No. 1 Longe, J. Blair Sur. 7-in. csg. 6,020 ft.; flwg. 125 B.P.D.; T.P. 200 lbs.; C.P. 1,200 lbs.

Texas Canadian Oil Co. No. 1 Ward and Ward, A. Horton Sur. Loc.

Cleveland—Liberty County

Gulf Oil Corp. No. 16-C Kirby, R.U.

Hankamer—Liberty County

Gulf Oil Corp. No. 1 Bernice Hankamer. T.D. 4,331 ft.; fsg.

Hull—Liberty County

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; fsg.

Gulf Oil Corp. No. 71 Phoenix. T.D. 4,101 ft.; 5-in. csg. 3,731 ft.; swbd. dry; resetting screen.

Esperson—Liberty County

General Crude Oil Co. No. 21, Moores Bluff, M. Duncan Sur. Drlg. 3,065 ft.

General Crude Oil Co. No. 31 Esperson, G.C.&S.F. Sur. Drlg. sh. 4,633 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker E. Hall Sur. 13⅜-in. csg. 1,260 ft. drlg. sh. 6,350 ft.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; drlg. salt 1,398 ft.

Markham—Matagorda County

Hamill and Hamill No. 6 Hudson, Henry Parker Sur. Drlg. sh. 2,330 ft.

Powers Prod. Co. No. 5 Myers, Wm. Hadden Sur. T.D. 4,509 ft.; P.B. to sdtrk.

Superior Oil Co. No. 1-B Hawks, W. H. Gainer Sur. S.D. 6,056 ft.

Texas Gulf Prod. Co. No. 1 Hudson, Henry Parker Sur. R.U.

Van Vleck—Matagorda County

McDaniel Drlg. Co. No. 1 C. T. Dye, M. Cummings Sur. Abd. 8,733 ft.

Skelly Oil Co. No. 11-B Cobb, M. Cummins Sur. T.D. 7,246 ft.; rng. cg. test.

Skelly Oil Co. No. 12-B Cobb, M. Cummins Sur. Drlg. sd. 5,726 ft.

Skelly Oil Co. No. 13-B Cobb, M. Cummins Sur. Sh. and L. 5,234 ft.

Conroe—Montgomery County

Adeltex Oil Co. No. 1 Lewellen, R. G. Hunter Sur. Drk.

A. U. Morrison No. 2 McComb, L. Smith Sur. 10¾-in. csg. 750 ft.; drlg. sh. 4,500 ft.

Strake Pet. Corp. No. 16 Keystone, L. Smith Sur. Drlg. sh. 4,710 ft.

Sun Oil Co. No. 22 Keystone, L. Smith Sur. Drk.

Orange—Orange County

B. Turnbull No. 1 Lutcher Moore, J. Dyson Sur. T.D. 7,094 ft.; 7-in. csg. 6,976 ft.; tested S.W.; P.B. 6,800 ft.; W.O.C.

Ace—Polk County

Peyton Bros. No. 1-B Kirby West Lmbr. Co., G. S. Thomas Sur. Drk.

Greta—Refugio County

Hewitt & Daugherty No. 32 Lambert, Connell Sur. Sh. 5,937 ft.; no report.

Hewitt & Daugherty No. 33 Lambert, Swisher Sur. Drlg. sh. 5,830 ft.

United Gas Co. No. 30 Lambert, Hew Sur. Cg. 5,890 ft.; no report.

United Gas Co. No. 31 Lambert, Hew Sur. Drlg. sh. 3,430 ft.

Refugio—Refugio County

United Gas Co. No. 4 Rea, Lot 1, Block 5, T.D. 5,537 ft.; P.B. and stdrkd.; S.D.

Quintana-O'Connor—Refugio County

Quintana Oil Co. No. 2 Heard, Ximines Sur. Drlg. sh. 5,837 ft.

Quintana Pet. Co. No. 40-A O'Connor, Swisher Sur. T.D. 5,921 ft.; comp.; no gauge.

Quintana Oil Co. No. 41-A O'Connor, Swisher Sur. Drk.

Quintana Oil Co. No. 40-7-C O'Connor, G. W. Main Sur. Cg. for sd. 5,900 ft.

Quintana Oil Co. No. 2-A Reilly, Ximines Sur. Spudded.

Placedo—Victoria County

American Liberty Oil Co. No. 2 Cortez, Brownson Sur. T.D. 4,767 ft.; 7-in. csg. 4,757 ft.; failed to flow; resetting screen.

Barnsdall-American Liberty Oil Co. No. 5 J. M. Pickering, S.A.&M.G. Sur. Drk.

Barnsdall-American Liberty Oil Co. No. 1 Pickering and Roos, S.A.&M.G. Sur. Drk.

Barnsdall Oil Co. No. 8 Pickering and Roos, S.A.&M.G. Sur. T.D. 4,774 ft.; 7-in. csg. 4,757 ft.; I.P. 10 B.P.H. through ¼-in. ck.

Barnsdall Oil Co. No. 9 Pickering and Roos, S.A.&M.G. Sur. T.D. 4,760 ft.; 7-in. csg. 4,754 ft.; W.O.C.

Harrison and Abercrombie No. 5 Sturdivant, J. M. Brownson Sur., Lot 72. T.D. 4,767 ft.; I.P. 65 B.P.D. through 3/16-in. ck.

Haynes B. Ownby No. 2 Traylor, J. M. Brownson Sur. 10¾-in. csg. 806 ft. T.D. 4,775 ft.; 7-in. csg. 4,760 ft.; deepened to 4,782 ft.; I.P. 4 B.P.H. through 9/64-in. ck.

Magnolia Pet. Co. No. 3 Henderson and Pickering, Wm. Rupley Sur. Drlg. sh. 4,640 ft.

Westgate Oil Co. No. 5 Mieska, S.A.&M.G. Sur. Drlg. sh. 3,000 ft.

Clay Creek—Washington County

Pompkal et al No. 3 Klatle. S.D. 576 ft

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur 7-in. csg. 7,445 ft.; T.D. 7,464 ft.; recvd. 400 ft. of oil and 140 ft. of wash wtr. on D.S.T. 7,425-64 ft.; will drill to 7,465 ft. and test.

Sun Oil Co. No. 18 Janner, J. F. Perry Sur. R.U.

Five Corners—Wharton County

Texas Co. No. 4-B Pierce, A. H. ... Sur. 10-in. csg. 1,127 ft.; T.D. 5,955 ft.; P.B. 5,523 ft.

Louise—Wharton County

Pure Oil Co. No. 2 Adams, T. W. Heard Sur. T.D. 5,158 ft.; P.B. 5,140 ft.; rng. csg.

Pure Oil Co. No. 2 Macha, M. Cummins Sur. 10¾-in. csg. 1,175 ft.; T.D. 5,148 ft.; 7-in. csg. 5,135 ft.

Magnet—Wharton County

P. B. Watson No. 1 Sweet, Smith and McKinzie Sur., Lot 4, Blk. 84. T.D. 5,488 ft.; washing over stuck D.S.

Pickett Ridge—Wharton County

Texas Crusader, Inc. No. 1 J. F. Kulbela J. C. Gifford Sur. 10¾-in. 600 ft.; T.D. 4,705 ft. in sdtrkd. hole; rng. 5-in. csg. to test.

Texas Co. No. 2 Nelson, I.&G.N. Sur. Blk. 37. T.D. 4,711 ft.; 7-in. csg. 4,702 ft.; ran screen; failed to back off; cutting out tbg.

Withers—Wharton County

Texas Co. No. 15-C Pierce, J. Caldwell Sur. Drlg. sh. and L. 3,866 ft.

Texas Co. No. 16-C Pierce, Wm. Pettis Sur. Drlg. sh. 5,296 ft.

Texas Co. No. 17-C Pierce, Wm. Pettus Sur. Drlg. sh. 1,227 ft.

GULF COAST WILDCATS

Austin County

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. S.D. 3,417 ft.

Brazoria County

Beatty, Bowles and Borsodi No. 1 Truska Lot 4, Blk. 8, H.T.&B. Sur. Drlg. L. 5,982 ft.

Texas Co. No. 1 Robbins, J. W. Broughan Sur. 11¾-in. csg. 4,950 ft.; T.D. 6,637 ft.; pulled out overshot to 6,113 ft. stuck at that depth.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8, Matagorda Island. 13⅜-in. csg. at 1,826 ft.; W.O.C.

Chambers County

Laverne Deeker No. 1 Johnson, M. O. Perkins Sur. No. 30. Drk.

Sun Oil Co. No. 1 Acron, sec. 103. T.D. 8,335 ft.; 9⅝-in. csg. 8,100 ft.; prep. to test at 8,190 ft.

Sun Oil Co. No. 2 Hamilton, J. T. White Sur. 13⅜-in. csg. 1,385 ft.; T.D. 8,869 ft.; S.D.

Colorado County

Covle-Concord & Sterling No. 1 Mary ... South, I.&G.N. Sur., sec. 41. T.D. 6,189 ft.; 5½-in. csg. 6,187 ft.; P.B. 6,127 ft.; tstg. from 6,032-40 ft.

Fort Bend County

Sloan and Zook No. 1 J. A. Brown et al, Barrett and Harris Sur. 10¾-in. csg. 1,140 ft.; drlg. sh. and L. 3,814 ft.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart. Spillman Sur. 9⅝-in. csg. 7,707 ft.; T.D. 10,460 ft.; showed gas at 10,456-60 ft.; prep. to core ahead.

Hardin County

Republic-Houston Oil Co. No. 2 Brooks G. W. Brooks Sur. (relief well). Cmtd 7-in. csg. 7,027 ft.; T.D. 7,071 ft.; hole cleaned to 2,400 ft.; fsg.

Republic Prod. Co.-Houston Oil Co. No. 3 fee, G. W. Brooks Sur. Spudded.

Harris County

D. B. Cherry et al No. 1 Bert J. Dodge, Josiah Harrell Sur. S.D. 1,660 ft.

Farrel and Cox No. 1 Bender, N. W. Travis Sur. Drlg. wtr. well.

Fred Harris No. 1 J. C. Change, Donohv Sur. S.D. 90 ft.

George Lawrence et al No. 1 Zoppa, J. Farwell Sur. 10¾-in. csg. 605 ft.

Jefferson County

D. B. MacDaniel No. 1 J. N. Gilbert Est., J. Ricard Sur. Bldg. roads.

Sun Oil Co. No. 1 Broussard & Hebert, T.&N.O. Sur. Drlg. sh. and L. 5,418 ft.

Lavaca County

Dole Pet. Co. No. 1 Reed-Nollkamper, ... Smothers Sur. S.D. 3,395 ft.

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. Drk.

Matagorda County

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. Drk.

Jack Frazier No. 1 R. A. Estill, Tone and Jameson Sur. O.W.D.D.; T.D. 6,868 ft.; P.B. 5,331 ft.; sdtrkg.

Strake Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. 13⅜-in. csg. 1,607 ft.; drlg. sdy. sh. 4,708 ft.

Tetts & Harris No. 1 Pierce, Lot 23, W. E. Wallace Sur. Drlg. sh. 7,739 ft.

Montgomery County

Chapman No. 1 Foster, D. Pevy Hous Sur.; Drk.; R.U.

Polk County

J. F. Dorrance et al No. 1 Sarah Wings, sec. 15, I.&G.N. Sur. Spudded and S.D. to finish R.U.

Refugio County

Tide Water Oil Co. No. 1 Landgarf, J. Collyer Sur. Drlg. sh. 3,000 ft.

Trinity County

Cortez Oil Co. No. 1 V. and R. Kennedy, J. M. Prado Sur. R.U.; no report.

Tyler County

Republic Prod.-Houston Oil Co. No. 1 Hurd, Norman Hurd Lge. 16-in. csg. 47 ft.; 10¾-in. csg. 1,649 ft.; drlg. sh. 5,510 ft.

Victoria County

Magnolia Pet. Co. No. 1 Willie Beck, T. &N.O. Sur. 13⅜-in. csg. 920 ft.; drlg. sh. 2,350 ft.

Plymouth Oil Co. No. 1 Welder, S.A.&M. S. Sur. No. 153. Drlg. sh. 5,830 ft.

Plymouth Oil Co. No. 1 J. J. Welder, S. A. Balding Sur. T.D. 6,648 ft.; fsg.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. S.D. 520 ft.; no report.

Wharton County

Barnett Pet. Co. No. 1 Bard, J. B. Marford Sur. 10-in. csg. 960 ft.; abd. 5,550 ft.

Fermont Oil Corp. No. 1 G. Mitchell, D. Wade Sur. Drlg. sh. 7,702 ft.

Shell Pet. Corp. No. 1 Gus Sedyler, F. Biggam Sur. 8⅝-in. csg. 1,155 ft.; cg. sh. 4,742 ft.

Texas Crusader Oil Co. No. 1 fee, J. Smith & McKenzie Sur. 10¾-in. csg. 1,234 ft.; 7-in. csg. cmtd. 5,562 ft.; T.D. 5,559 ft.; flwg. approx. 85 bbls. oil and 125 bbls. of S.W. per day through ⅜-in. ck.

S. W. TEXAS WILDCATS

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Spudding in.

Helvetia Oil Co. No. 2 S. Pratt, 333 ft. SE and SW lines tr., Garza Sur. 46. Drlg. 2,742 ft.

L. G. Priest No. 1 Sanders, Garmon Sur. Spudded; S.D.

Rogers & Rogers No. 1 McLain, Trevino Sur. 79. Cd. sdy. sh. S.O. 1,510-1,638 ft.; sat. oil sd. 1,638-75 ft.; set csg. 1,510 ft.; rng. tbg.

Bee County

Black Dev. Co. No. 1 Asa Jones, 330 ft. N line, 1,813 ft. E line, 286-ac. tr., Wood Sur. T.D. 5,010 ft.; D.&A.

Devonian Oil Co. No. 2 Manning, J. Poitevent Sur. Cg. 3,540 ft.

Humble O. & R. Co. No. 9 McKinney, S. C. Randolph Sur. T.D. 4,141 ft.; D.&A.

Miller & Donzis No. 1-B Holzmark, S. May Sur. Spudded.

Brooks County

California Co. No. 2-B Garcia, 1,395 ft. N line, 330 ft. W line, Tr. 3, La Mestina Gr. M.I.M.

Douglass & Burden, Inc., No. 1 Haller, 300 ft. S and W lines, Sur. 436. Drlg. 611 ft.

Magnolia Pet. Co. No. 1 Lasater, 330 ft. N and W lines, S. Korkill Sur. 440. Cg. sd. 5,022 ft.

Burleson County

Red Bank Oil Co. No. 1 Grann, 2,875 ft. S line, 1,500 ft. E line, E. Santel Sur. S.D.; D.S. stuck 5,926 ft.; P.B. prep. to stdrk. 3,700 ft.

Duval County

Benedum & Trees Oil Co. No. 1 Sevier, 1,300 ft. S line, 980 ft. E line tr., Palo Blanquito Sur. Drlg. 6,696 ft.

H. H. Coffield (Frank Buttram) No. 1 Nueces Ld. & Livestock Co., 1,350 ft. N line, 1,700 ft. E line, Sur. 102. Drlg. 1,939 ft.

H. F. Gillaspie No. 1 Perez, Sur. 282. Drlg. 4,507 ft.

Goldston et al No. 1 Welder, 330 ft. S and W lines, Sur. 217. Cg. sh. 2,861 ft.

Lipscomb & Daubert No. 1 Peters, 330 ft. S line, 1,650 ft. E line, Mitigart Sur. 321. T.D. 2,672 ft.; D.&A.

Mills Bennett Prod. Co. No. 3 Yates, 330 ft. N and E lines, Sur. 317. T.D. 3,712 ft.; D.&A.

Mills Bennett Prod. Co. No. 4 Yates, Sur. 467. Spudded.

Albert Plummer No. 1 Danmier, 990 ft. S line, 330 ft. W line, NE¼, Sur. 58. Drlg. 2,476 ft.

Rogers & Rogers No. 1 E. J. Rogers, 3,199.1 ft. SW line, El Mesquite Gr., 250 ft. NE line tr. T.D. 3,300 ft.; D.&A.

Edwards County

Plateau Oil Co. No. 1 R. L. Hatch, sec. 66, J. W. May Sur. S.D. 2,335 ft.

Fayette County

Paul Teas No. 1 Clement Vinklarek, S. Millett Lge. Drlg. 6,716 ft.

Goliad County

Sun Oil Co. No. 1 Fromme, 330 ft. N line tr., 330 ft. W line, A. Martle Sur. Drlg. sh. 4,616 ft.

H. H. Weinert, Inc., No. 4 Runge Loan Co., B.&B. Sur. 36. Drk.

Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Page Lge. Sd. 562-69 ft.; S.O.; drlg. 776 ft.

Guadalupe County

Paul Armstrong No. 1 Tiller, J. C. King Sur. S.D. 1,767 ft.

Chas. Culver No. 1 Vorphal, Geo. Edwards Sur. T.D. 2,525 ft.; set csg. 1,910 ft.

Detroit-Texas Dev. Co. No. 1 Carter, 625 ft. SW line, 170 ft. NW line, 3,000-ac. tr. Drlg. 2,116 ft.

J. Harper No. 1 Loepp, Drna Sur. Spdded.

Francis P. Hynes No. 1 Linne, 415 ft. NW line, 250 ft. SW line, 224-ac. tr., Reese Sur. Drlg. 1,813 ft.

Long & Ross No. 1 Feltz, Dunn Sur. S.D. 570 ft.

Hidalgo County

H. J. Porter No. 2 Sweeny Est., Lot 1, Wayne Wood Subd. No. 2. Set surf. csg. 450 ft.; W.O.C.

Jim Hogg County

Eastland Oil Co. No. 1 Vela hrs., 330 ft. S and E lines, Blk. 5, Sh. 1. Loc.

Theo. Hicks No. 1 Kohler, sec. 9, Noriscitas Gr. Drlg. 3,363 ft.

S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

Locke Purnell and Gifford Oil Co. No. 2 Gallagher, 330 ft. S and W lines, Blk. 190, Pippin Subd. Cg. 3,554 ft.

Pen-Ultimo Oil Co. No. 1 Kohler, 2,640 ft. N line, 1,320 ft. W line, Blk. 9, Subd., Meracita Gr. T.D. 3,210 ft.; S.D.

Jim Wells County

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines, Sur. 151. Set 7-in. csg. 2,340 ft.; fsg. 5,308 ft.

G. Tzelmelia (Putnam & Stewart) No. 1 Canales, C Blk. 32, Mosser Subd. (reinstated). S.D.; T.D.; gas sd. 4,140 ft.

Karnes County

R. L. Barnett No. 2 fee, 568-ac. tr., Hunter Sur. Drlg. 2,216 ft.

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. R.U.

LaSalle County

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. S.D. 800 ft.

Lee County

Federson et al No. 1 Turner, David Hudson Sur. T.D. 6,560 ft.; milling 4,600 ft. to sdtrk.

Live Oak County

J. H. Durbin No. 4 Marbach, S. Hays Sur. Sd. 917-19 ft.; S.D. 919 ft.

Posey & Roundtree No. 1 Turner, 1,400 ft. NW line, 1,500 ft. SW line, 510-ac. tr., S. Hays Sur. Drlg. 528 ft.

Sun Oil Co. No. 1 James, Pat McGlover Sur. Spudded.

Maverick County

J. N. Boicourt No. 1 Edson et al, 1,230 ft. E line, 1,120 ft. N line, Eaves Sur. 65. T.D. 542 ft.; S.D.

Rio Dev. Co. No. 1 Winchester Kelson 150 ft. W line, 750 ft. S line, E½, 130-ac. tr. T.D. 804 ft.; S.D.

McMullen County

L. D. Armsby No. 9 Griffith, 650 ft. N line, 150 ft. NE of No. 8. T.D. 940 ft.; recmtd.; S.D.

C. B. Grimes No. 2 Sling, 330 ft. N and E lines tr., Sur. 116. Loc.

C. I. Jennings No. 1 Regan, 1,070 ft. S. Frio River, 330 ft. W line, 642-a. tr., Wolfe Gr. T.D. 1,024 ft.

F. W. Nute No. 1 Fehler, Byrne-Pittuck Grants. Cg. 1,009 ft.

L. D. Ormsby No. 11 Griffith, B. Sparks Sur. D.S.T. 935-40 ft.; showed 90 ft. of mud and oil; no wtr.

Medina County

Joice Oil Co. No. 1 Medina Irr. Farm Lds., Lot 1, Blk. 34, San Antonio Trust Subd. Set surf. csg. 100 ft.; W.O.C.

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.

W. H. Wycoff No. 1 Bendele, 1,275 ft. W line, 150 ft. N line, Joe Barnhart Sur. 593. Drlg. 160 ft.

Nueces County

Allen and Seaboard Oil Corp. No. 1 Chapman, 660 ft. N and E lines, sec. 80, Laureles Farm Trs., Rincon de Corpus Christi Sur. Drlg. 3,915 ft.

Barnstall Oil Co. No. 1 Weil, Lot 5, McBride Part. T.D. 7,502 ft.; D.&A.

Fearis & Cosner No. 1 Stockton, 330 ft. S and W lines, NE¼, sec. 25. T.D. 2,650 ft.; S.D.

Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.

G. M. Richardson No. 1 Carter, C NW¼, SE¼, sec. 8, Laurels Farms Trs. Drlg. 4,557 ft.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B. Sur. Drlg. 776 ft.

San Patricio County

Eleanor Oil Co. No. 1 Kline, Lot 5, Blk. "C," Coleman-Fulton Pasture Subd. T.D. 6,717 ft.; S.D.

Eleanor Oil Co. No. 1 W. W. Toland, sec. 15, Blk. A, Coleman-Fulton Pasture Subd. M.I.M.

Hooper-Rutherford, Inc. No. 1 J. D. Willis 466 ft. S and W lines tr., Williamson Sur. Drlg. 5,396 ft.

Windsor Oil Co. No. 1 Bissett, Tr. 3, Tivoli Subd., Crockett Sur. Loc.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1 Porc. 79, J. of Camargo. T.D. 2,910 ft. resume drlg.

Barbara Oil Co. No. 1 Pardue, Javali Gr. S.S.O. 1,065 ft.; drlg. 1,194 ft.

H. L. Bass No. 1 Haden, 3,740 ft. S line 555 ft. W line, Sh. 47, Porc. 80. T.D. 1,328 ft.; S.D.

J. H. Brower No. 1 Saenz, Sur. 362. S.D. 150 ft.

F. Davenport No. 1 Kelsey-Bass, 534 ft. S line, N 585-ac. tr., 2,856 ft. E line, Porc. 87. Set 1,000 ft. of surf. csg.; no report.

Davenport-Slick-Urschel No. 1 Slick Est., Davenport ranch, sec. 485. Sd. 3,837-56 ft.; T.D. 4,512 ft.; W.O.O.

R. A. Mitchell No. 2 Bass, Sur. 8, Porcs. 75-77. R.U.

South Coast Oil Co. No. 1 Isabel Lopez, Sh. 40-B, Porc. 80. Drlg. 2,613 ft.

Sun Oil Co. No. 1 Orr, 330 ft. N and W lines, Porc. 103. Loc.

Webb County

B. M. Alexander No. 1 fee, Porc. 25. Loc.

French Oil Corp. No. 1 Garcia, Sur. 1131, R.U.

Foster Barnsley No. 1 Webster, 150 ft. N and E lines, S½, NE¼, Sur. 684. T.D. 2,275 ft.; T.A.

Ivan Howard No. 2 Frost National Bank, N½, Sur. 595. T.D. 1,921 ft.; D.&A.

Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porcs. 12, 13 and 14. M.I.M.

Mid-Continent Pet. Corp. and Oklahoma Co. of Texas No. 1 Laubscher, 330 ft. NE and NW lines, NW¼, sec. 1,394. Drlg. 2,920 ft.

H. E. Nessly No. 1 Bruni, Sur. 450. Drlg. 2,011 ft.

Starr & Killam No. 1 Bruni, Sur. 585. Loc.

Wilcox O. & G. Co. No. 1 Puig, Serna Blanca Pasture, Galan Gr., Sur. 2161, R.U.

Zapata County

Gilcrease Oil Co. No. 1 Trevino, Blk. 5, sec. 3, Porcs. 2 and 3. T.D. 3,009 ft.; D.&A.

Jennings No. 1 Martinez, Sur. 434. T.D. 150 ft.; S.D.

Zavalla County

Wilcox O. & G. Co. No. 1 Gilliman, sec. 11. Loc.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

I. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc.

Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr., Wolfenberger Sur. Drlg. 2,662 ft.

Cosden—Bee County

Elwood & Young No. 3 Barnett, John Place Sur. Sd. 3,636-53 ft.; S.O.; P.B. 3,960 ft.; T.D. 4,050 ft.

Plummer—Bee County

W. C. McBride, Inc., No. 1 Plummer, sec. 33, Chesman Sur. Drlg. 2,463 ft.

Ray—Bee County

J. A. West No. 1-B Geo. Ray, W. B. Blanchard Sur. M.I.M.

Voss—Bee County

Devonian Oil Co. No. 3 Voss, May Sur. Sd. 3,988-94 ft.; comp.; 5½ B.P.H. on ¼-in. ck.

Humble O. & R. Co. No. 1 Yoward, Chas. Shain Sur. T.D. 4,007 ft.; D.&A.

Humble O. & R. Co. No. 3 Voss, 101-ac. Drlg. hd. sh. 4,002 ft.

West Tuleta—Bee County

Blanco Oil Co. and Buchanan No. 4-A Perez, sec. 9. Cg. 3,212 ft.

Alta Mesa—Brooks County

California Co. No. 1 Jones, La Mestina de Gonzalina Gr. D.S.T. 1,707-16 ft.; showed gas with strong sulfur odor; cg. 2,453 ft.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm. Singer, Blk. 8, Sur. 436. S.D. 185 ft.; (cor.).

Nordan & Morris No. 4 Singer, Sur. 312. Drlg. 812 ft.

Dick Young No. 5 Singer, Blk. 12, Sur. 312. Cg. 902 ft.

Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Cooper Sur. Set surf. csg.; W.O.C.

Lincoln Pet. Co. No. 3 Brown, D. Cooper Sur. Drlg. 1,043 ft.

Taylor Ref. Co. No. 2 Branyon, D. Cooper Sur. Drlg. 1,107 ft.

Whisenant & Trenchard No. 3 Brown, J. R. Miller Sur. Comp.; set csg. 1,900 ft.

Whisenant & Trenchard No. 1 McGee, John Neil Sur. Drlg. 1,213 ft.

McCrory—Caldwell County

Whisenant & Trenchard No. 1 McGee, John Neil Sur. Drlg. 837 ft.

Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Sentz, 133 ft. NE line, 1,200 ft. SE line, Blk. 12, sec. 51. S.D. 1,544 ft.

Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Sur. 448. M.I.M.

El Mesquite—Duval County

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Highland Oil Co. No. 2 Hester, Sur. 117. Loc.

L. & R. Oil Co. No. 3 Webb, 12-ac. tr., Sur. 41. Loc.

Magnolia Pet. Co. No. 4 Johnson, Sur. 44. R.U.

Magnolia Pet. Co. No. 9 Lundell, SW¼,

Sur. 60. T.D. 2,360 ft.; P.B. 2,290 ft.; comp.; 24 B.P.D. on pmp.

Parr Oil Co. No. 3 Glover, SE¼ sec. 44. R.U.

Hoffman—Duval County

Bridwell Oil Co. No. 2 Robles, 330 ft. S line, 990 ft. W line, Sur. 68. Drlg. 2,613 ft.

Bridwell Oil Co. No. 4-B Sutherland, 330 ft. S and E lines, sec. 112. R.U.

McCandless & Cloyes No. 1 Sutherland, 330 ft. S line, 4,818 ft. E line, sec. 126. Spudded.

Standard of Kansas No. 6-A Hoffman, Sur. 118. Comp.; 171 B.P.D.; sd. 2,747-52 ft.

Kohler—Duval County

Humble O. & R. Co. No. 52 Kohler, 990 ft. N and E lines, Sur. 164. Set csg. 2,642 ft.; W.O.C.

Loma Novia—Duval County

Bridwell Oil Co. No. 5-A Hubbard, NW¼, Sur. 71. Drlg. 2,026 ft.

Eastern Texas Prod. Co. No. 5 Hubbard, Sur. 71. R.U.

Humble O. & R. Co. No. 48-B Hubbard, Sur. 72. Comp.; 35 B.P.H. on ½-in. ck.; T.D. 2,753 ft.

Humble O. & R. Co. No. 62-B Hubbard, Sur. 72. Drlg. sh. 1,763 ft.

Humble O. & R. Co. No. 15-C Welder, sec. 554. Set csg. 2,726 ft.; W.O.C.

Magnolia Pet. Co. No. 48 Hahl, Sur. 67. Tstg. 2,730 ft.

Magnolia Pet. Co. No. 5 Herbst, 330 ft. S and E lines, Sur. 67. Sd. 2,711-29 ft.; set csg.; W.O.C.

R. Ogden No. 1-G Ruiz, 330 ft. S and W lines, 80-ac. tr., sec. 41. Loc.

Rosan Oil Co. No. 3-A Hubbard, Sur. 71. Comp.; 240 B.P.D.; T.D. 2,810 ft.

Rosan Oil Co. No. 4-A Hubbard, Sur. 71. M.I.M.

Shell Pet. Corp. No. 8 B.C.C., S½, Sur. 59. Sd. 2,546-52 ft.; comp.; 16 B.P.H.

Sun Oil Co. No. 1-B Hubbard, Sur. 82. Loc.

Wollett & Masten No. 1 Bishop, S½ Sur. 74. Loc.

Lopez—Webb—Duval Counties

Cox & Hamon No. 4 Peters, Sur. 322. Comp.; 17 B.P.H.; T.D. 2,117 ft.

Cox & Hamon No. 30 Peters, Sur. 322. Comp; 20 B.P.H.; sd. 2,135-45 ft.

Glen Harroun No. 1-A Lopez, Sur. 110. Cg. 2,095 ft.

Lundell Bros. No. 1 Lopez, Sur. 734. Cg. 2,113 ft.

Magnolia Pet. Co. No. 23 Peal, Sur. 383. Comp.; 3 B.P.H.; T.D. 2,111 ft.

Magnolia Pet. Co. No. 24 Peal, Sur. 383. Rng. tbg. 2,180 ft.

Mortimer & Springer No. 8 J. Lopez, Sur. 73. Comp.; 15 B.P.H.; T.D. 2,187 ft.

Mortimer & Springer No. 10 Paula Vela, Sur. 114. Cg. 2,117 ft.

Mortimer & Springer No. 8-B Peal, Sur. 794. Comp.; 18 B.P.H. on ½-in. ck.; sd. 2,447-69 ft.

Mortimer & Springer No. 10-B Peal, Sur. 796. Drlg. 1,023 ft.

Sierra Oil & Roy. Co. No. 1-B Billings, Sur. 113. R.U.

Peters—Duval County

Mills Bennett Prod. Co. No. 4 Peters, 330 ft. S and W lines, Sur. 178. Top sd. 2,588 ft.; set csg. 2,605 ft.; tstg.

Rio Bravo Oil Co. No. 1-C Peters, Sur. 398. Tstd. gas-cut mud 1,788-1,802 ft.; S.O.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 2 D.C.R.C., Sur. 97. Comp.; 30 B.P.D. on pmp.; T.D. 1,951 ft.

Seven Sisters—Duval County

Atlantic Ref. Co. No. 8-C Welder, Sur. 591. T.D. 2,208 ft.; comp.; 4 B.P.H.

Humble O. & R. Co. No. 8 Badgley, Sur. 307. T.D. 2,521 ft.; comp.; 9 B.P.H.

Humble O. & R. Co. No. 10 Badgley, Sur. 307. Setting screen and lnr. 2,505 ft.

Humble O. & R. Co. No. 30 Smith, Sur. 382. Drlg. 2,439 ft.

Humble O. & R. Co. No. 32 Smith, Sur. 382. T.D. sh. 2,472 ft.; swbg.

Humble O. & R. Co. No. 34 Smith, Sur. 382. Sd. 2,671-2,710 ft.; comp.; 43.68 B.P.H. on ½-in. ck.

Humble O. & R. Co. No. 35 Smith, Sur. 382. M.I.M.

Reliance Oil & Roy. Co. No. 17 Drummond, sec. 308. R.U.

Reliance Oil & Roy. Co. No. 4 Welder, Sur. 381. Comp.; 37.5 B.P.D.; sd. 2,381-2,418 ft.

Texas Co. No. 3 Badgley, Sur. 307. Set csg. 2,512 ft.; comp.; 24 B.P.D. on ⅝-in. ck.

Wellington Oil Co. No. 24-A Welder, Sur. 383. Drlg. 2,016 ft.

Wellington Oil Co. No. 28 Welder, Sur. 383. T.D. 2,453 ft.; comp.; 480 B.P.D.

Pearsall—Frio County

Amerada Pet. Corp. (Davis) No. 1 Halff & Oppenheimer, 329-ac. tr., J. C. Clare Sur. 336½ (W.O.). Flwd. 130 B.P.D. then bridged; acidizing.

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104. R.U.

Amerada Pet. Corp. No. 7 Oppenheimer, 1,320 ft. W line, 330 ft. S line, Gibson Sur. 16 (W.O.). Drlg. 4,997 ft.

Maetz—Goliad County

Felmont Oil Corp. No. 1 Hoff, B.S.&F. Sur. No. 7. Drlg. 847 ft.

North Pettus—Goliad-Karnes Counties

Magnolia Pet. Co. No. 6 Welden, J. Gomez Sur. Drlg. 2,786 ft.

H. H. Weinert, Inc., No. 1 Porter, Victor Blanco Sur. Spudded.

Clark-Guadalupe County

Diamond Halff Oil Co. No. 2 Larkson, G. DeWitt Sur. M.I.M.

V. G. Schimmel No. 1 Grimm, Green Demitt Sur. Set csg. 2,342 ft.; T.D. 2,384 ft.

Mercedes—Hidalgo County

Union Sulphur Co. No. 10 American Rio Grande L. & L. Co., Blk. 50, Tr. 2,418, N. Caprisallo Dist. T.D. 8,306 ft.; washing down over tbg. 7,950 ft.

Mestanos—Hidalgo County

McCollum Explin. Co. No. 1-B Engleman. Lot 8, sec. 249. Digging pits.

McCollum Explin. Co. No. 1 MacDougall, Lot 232, sec. 249. Spudded.

Fontana Pet. Co. No. 1 Harding, Lot 11, Blk. 94, Missouri-Kansas L. & I. Co., Subd. Mestanos Gr. Sd. 6,590-6,640 ft odor oil and gas; taking core 7,820-40 ft.; blew out of control; burning; cratered.

Samfordyce—Hidalgo-Starr Counties

Gem Oil Co. No. 4-A Seabury. Tr. 256, Porc. 38. Sd. 2,783-93 ft.; comp.; est. 40 B.P.D. on ½-in. ck.

Harrison and Danvers No. 2-A Villalon. Tr. 252, Porc. 39. R.U.; S.D.

Skelly Oil Co. No. 1 F. B. Guerra, Tr. 251, Porc. 38. Sd. 2,800-09 ft.; set csg. 2,816 ft.; W.O.C.

Colorado—Jim Hogg County

J. H. Meek No. 3-A Martinez, 1,650 ft. E line, 1,550 ft. N line, Sur. 623, M.I.M.

Jentonville—Jim Wells County

Camp Drlg. Co. No. 1-B Pope, 330 ft. S and E lines, 320-ac. tr., sec. 13. Drlg. 4,127 ft.

La Jita Corp. No. 2 Pope, SE¼, sec. 20. Set csg. 5,585 ft.; S.D.

Premont—Jim Wells County

Francis & Simonton No. 1 A. Lozana, Jr., 185 ft. E line, 165 ft. S line, Lot 111, sec. 36. Drlg. 2,316 ft.

Tom Graham and Gilcrease Oil Co. No. 1 Escobas, 330 ft. N and E lines, Blk. 4, sec. 25, Buffalo-Tex Subd., Escobas ranch. Drlg. 2,607 ft.

Tom Graham No. 1 Wm. Singer, C Lots 71 and 74, Sur. 76. Cg. 2,587 ft.

Sandia—Jim Wells County

J. E. Walsh No. 2 Wade, Lot 2, Blk. C, Bode Subd. Drlg. 2,107 ft.

Lucas—Live Oak County

Houston Oil Co. No. 3 Sellers, W. J. Cannon Sur. Cg. 2,331 ft.

Oakville—Live Oak County

Ohio Fuel Oil Co. No. 1 Rosebrocks, Romero Sur. M.I.M.

Calliham—McMullen County

Joe Coursey No. 2 Lark, Scrugham Sur. Set csg. 1,040 ft.; W.O.C.

W. P. Howard No. 6 Claunch, M. Hely Sur. Cg. 427 ft.

Loma Oil Co. No. 47-A Jacob, sec. 10, Scrugham Sur. Drlg. 350 ft.

Loma Oil Co. No. 11-F Jacob, Fadden Sur. Drlg. 760 ft.

National Pet. Co. No. 2-B Lark, Jacob Sur. Drlg. 135 ft.

Rhodes—McMullen County

Humble O. & R. Co. No. 1 Edrington, 330 ft. S and W lines, sec. 57, A.B.&M. Sur. Drlg. 138 ft.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Drlg. 400 ft.

Agua Dulce—Nueces County

Texon Drlg. Co. No. 1 Clara Driscoll Sevier, 466 ft. S and W lines, 880-ac. tr., W. W. Chapman Lds. T.D. 5,710 ft.; S.D.

United Prod. Corp. No. 2 W. W. Walton, Lot 5, Sh. 1, Chapman Lds. Subd. Drlg. 4,387 ft.

Clara Driscoll—Nueces County

W. D. Hines No. 1 Sevier, 280 ft. S and E lines, W½, sec. 60. Drlg. 5,947 ft.

Hiram Reed No. 2 Roper, C Lot 1, sec. 108. T.D. 4,003 ft.; W.O.C.

Magnolia Pet. Co. No. 1 Clara Sevier, 330 ft. N and W lines, 240-ac. tr., R. Russell Sur. Loc.

Wellington Oil Co. No. 1-A Sevier, 125-ac. tr., Wm. Gamble Sur. Cg. 4,853 ft.

Wellington Oil Co. No. 5 Sevier, 990 ft. S line, 330 ft. E line, tr., Gambel Sur. Drlg. 3,307 ft.

Flour Bluff—Nueces County

Costa Oil Co. No. 2 Henderson, C Lot 11, sec. 48. Sd. 6,600-57 ft.; set csg.; W.O.C.

Humble O. & R. Co. No. 1 Jose Miller, C Lot 26, sec. 47. Drlg. 2,750 ft.

Humble O. & R. Co. No. 2 Phillips, C Lot 26, sec. 47. Loc.

Humble O. & R. Co. No. 1 Phillips, C Lot 2, Blk. 48. Tstg. sd. 6,636-60 ft.; made 500,000 ft. gas; T.D. 6,661 ft.; reworking.

Humble O. & R. Co. No. 1 Webb, C Lot 11, Blk. 47. Drlg. 1,029 ft.

Humble O. & R. Co. No. 1 Webster, C Lot 23, Blk. 48. Drlg. 2,150 ft.

S. Paul No. 1 Moulter, Blk. 16, sec. 41. Encinal Garden tracts. Loc.

Saxet Heights—Nueces County

Baltic Drlg. Co. No. 1 Grant, Lot 54, Country Club Pl. Sd. 4,065-85 ft.; set csg.; W.O.C.

Bartlett & Reed No. 2 Carson, 30-ac. tr. Drlg. 2,213 ft.

Wm. Brady No. 1 Perkins, C Lot 49, Country Club Pl. Set surf. csg.; W.O.C.

Conroe Drlg. Co. No. 5 McBride, 58-ac. tr., McBride Part. Sd. 4,065-98 ft.; set csg.; comp.; gasser spraying oil; W.P. on tbg. 1,200 lbs.

J. K. Culton No. 8 Baldwin, Blk. 19, Russell Farm Trs. Comp.; 390 B.P.D. on 5/16-in. ck.; T.D. 4,082 ft.

J. K. Culton No. 9 Baldwin, Blk. 19, Russell Farm Lots. Drlg. 1,783 ft.

D. & S. Drlg. Co. No. 1 Meany, 53.41-ac. tr., Villareal Gr. R.U. and S.D.

Genro & Roosth No. 1 Caddell, C Lots 3, 4 and 5, Blk. "D," Harbor View Ests. Drlg. 2,076 ft.

Chas. F. McGrew No. 3 Kelly, 19-ac. tr. Sd. 4,060-90 ft.; set csg.; W.O.C.

Morgan Bros. No. 2 Benner, Blk. C, Harbor View Estates. T.D. 4,085 ft.; **failed to flow; S.D.**

W. N. Paul No. 2 Schallert, cen. Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.

Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.

Port O. & G. Co. No. 2 Corpus Christi College, 39.6-ac. tr. Set csg. 4,090 ft.; drlg. plug.

Power Prod. Co. No. 1 Holt, Country Club Pl. Comp.; 80 B.P.D. on ⅛-in. ck.; sd. 4,073-94 ft.

Power Prod. Co. No. 1 Savage, cen. 1-ac. tr., Country Club Addn. Sd. 4,058-85 ft.; comp.; 112 B.P.D. on ¼-in. ck.

J. D. Proctor No. 1 Simonton, 100 ft. E line, 68 ft. N line, 1-ac. tr., Lots 46 and 47, Country Club Pl. Sd. 4,070½-83 ft.; set csg.; completing.

Renwar Oil Co. and Maryland Pet. Corp. No. 6 Guarantee Title & Trust Co., Lot 5, Blk. 2, Villa Gardens Subd. T.D. 4,126 ft.; D.&A.

Renwar Oil Co. and Maryland Pet. Corp. No. 2 Meany, 150 ft. N Shell Rd., 280 ft. E line, 40-ac. tr. Drlg. 4,157 ft.

Saxet O. & G. Co. No. 1 Edwards, 42-ac. tr. Sd. 4,073-79 ft.; comp.; 128 B.P.D.; 30° S.W.

Saxet O. & G. Co. No. 3 Edwards, 1,371 ft. SW line, 165 ft. NW line, 32-ac. tr. R.U.

Westgate Oil Co. No. 7 Sturm Est., 89-ac. tr. Comp.; 5 B.P.H. on ¼-in. ck.; sd. 4,075-85 ft.

Sam Wilson No. 1 McCaughan, C Lots 8, 9, 10, Blk. 11, Oak Park Addn. Comp.; 40 B.P.D.; 20° S.W.; sd. 4,059-82 ft.

Sam Wilson No. 1 Glover Johns, Villareal Sur. Set csg. 4,094 ft.; W.O.C.

Saxet—Nueces County

Allen & Morris No. 1 Hocker & Sevier, 330 ft. N Shell Rd., 330 ft. W line, 100-ac. tr. Set surf. csg.; W.O.C.

R. B. Bryant No. 4 Scoggin, 660 ft. S No. 3, 330 ft. W line tr., Sur. 315. Sd. 4,555-70 ft.; set csg. 4,570 ft.; W.O.C.

R. B. Bryant No. 5 Scoggin, Sur. 315. Set surf. csg. W.O.C.

R. B. Bryant No. 2 Smith, 11.6-ac. tr., Sur. 315. Drlg. 2,314 ft.

Conroe Drlg. Co. No. 8 Bliss, 330 ft. S and E lines, 80-ac. tr. Sd. 5,820-29 ft.; set csg. 5,829 ft.; W.O.C.

Conservative Oil Co. No. 2 Morgan-Clark, 330 ft. S and W lines, W½ NW¼ sec. 405. Sd. 4,074-94½ ft.; tstd. dry gas; drlg. deeper.

Conservative Oil Co. No. 2 R. Morgan, 109-ac. tr., Sur. 403. Drlg. 470 ft.

L. Glasscock No. 2 Hunter, 159-ac. tr., Page Sur. Drlg. 4,217 ft.

Great States No. 6 McGregor-Belk, 330 ft. E lines, 920 ft. N line lse., Sur. 311. Sd. 5,806-24 ft.; set csg.; W.O.C.

Hiawatha Oil Co. No. 6 Griffith, 330 ft. S line, 3,084 ft. E line, Sur. 416. Drlg. 6,197 ft.

Hiawatha Oil Co. No. 1 Hutchins-Stillwell, 175 ft. W line, 1,200 ft. S line, Sur. 311. Stdg. 4,257 ft.

W. B. Hinton No. 5 Cole, 330 ft. N and W lines, 60-ac. tr., Villareal Sur. Drlg. sh. 2,321 ft.

Houston Oil Co. No. 2-A fee. 23.6-ac. tr. T.D. 6,297 ft.; shut in; closed-in C.P. 2,350 lbs.

Houston Oil Co. No. 8 McGregor, 135-ac tr., Sur. 582. Sd. 5,814-23 ft.; comp.; no gauge; T.D. 5,826 ft.

Houston Oil Co. No. 10 McGregor, 135-ac. tr., Sur. 582. R.U.

Houston Oil Co. No. 11 McGregor, 135-ac. tr., Sur. 582. Drlg. 1,308 ft.

Pan American Prod. Co. No. 4-C Morgan, 90-ac. tr., Sur. 403. Set csg. 1,052 ft.; W.O.C.

Pan American Prod. Co. No. 4-D Morgan, W½, SW¼, Sur. 405. Sd. 4,093-4,103 ft.; set csg.; W.O.C.

Pan American Prod. Co. No. 3-A Sagarin, 39-ac. tr. R.U.

Pan American Prod. Co. No. 2-B Sagarin, 660 ft. N No. 2-A, 330 ft. W line, C.E.I. P.&M. Sur. Sd. 5,812-27 ft.; comp.; est. 240 B.P.D. on 3/32-in. ck.

Pan American Prod. Co. No. 3-B Sagarin, Sur. 500. R.U.

Phillips Pet. Co. No. 5 Hutchins, 60-ac. tr., Blks. 29 and 30, Sheppard Farm Lots. R.U.

Phillips Pet. Co. No. 4 Morgan, Sur. 405. Drlg. 370 ft.

Renwar Oil Co. and Maryland Oil Co. No. 4 Rand Morgan, 660 ft. E of No. 3, 330 ft. N line lse., Surs. 315 and 592. Set surf. csg.; W.O.C.

Republic Nat. Gas Co. No. 15 Dunn, Blks. 37 and 38, Sheppard Farm Lots. Drlg. 3,579 ft.

Republic Nat. Gas Co. No. 16 Dunn, Blk. 37, Sheppard Farm Lots. Drlg. 1,667 ft.

Richardson Pet. Co. No. 3 Cain & Secrist, 890 ft. N line, 330 ft. W line, Blk. 23, Russell Farm Lots. Sd. 4,407-19 ft.; set csg. 4,407 ft.; drlg. plugs.

Richardson Pet. Co. No. 4 Cain & Secrist, Blk. 23, Russell Farm Lots. R.U.

Richardson Pet. Co. No. 2 Harrell, Blk. 23, Sheppard Farm Lots. T.D. 6,635 ft.; P.B. to sdtrk.

Richardson Pet. Co. No. 2 Quiros, Blk. 40, Sheppard Farm Tr. (W.O.). P.B.T.D. 4,-198 ft.; old T.D. 4,879 ft.; M.I.M.

Southern Minerals Corp. No. 1 Bernson, 330 ft. N and E lines, 120.45-ac. tr., Sur. 40. Cg. 3,721 ft.

Southern Minerals Corp. No. 3 Bliss, 120-ac. tr., Stevens Sur. (W.O.). Sd. 5,820-32 ft.; comp.; 135 B.P.D. on ⅛-in. ck.

Southern Minerals Corp. No. 7 Isensee, Sur. 404. Set csg. 911 ft.; drlg. 1,020 ft.

Southern Minerals Corp. No. 4 Mastin, 125-ac. tr., Franks Sur. 416. Sd. 5,829-36 ft.; set csg.; W.O.C.

Southern Minerals Corp. No. 8 Ocker, 330 ft. N and E lines, 202-ac. tr., Page Lands Sur. T.D. 4,868 ft.; completing.

Southern Minerals Corp. No. 8 Smith, Blk. 4, Sheppard Farm Lots. R.U.

Southern Minerals Corp. No. 1 Till, 990 ft. S line, midway E and W lines, 52.6-ac. tr., Page Lds. Sur. T.D. 6,605 ft.; perf. csg. 4,862-69 ft.; rng. screen and lnr.

T. & T. Oil Co. No. 3 Cain & Secrist, Blk. 23, Russell Farm Lots. Drlg. 567 ft.

Texon Drlg. Co. No. 3 Carter, 219.14-ac. tr., Ward Sur. 316. Sd. 4,448-53 ft.; set csg. 4,448 ft.; W.O.C.

Texon Drilling Co. No. 2 Isensee, 150 ft. N line, 112 ft. W line 13.44-ac. tr., C. Land Sur. 404. Set condr. csg.; W.O.C.

Texon Drlg. Co. No. 5 Kocurek, 140-ac. tr., Sur. 316. Sd. 4,434-43 ft.; set csg.; W.O.C.

Texon Drlg. Co. No. 4 McElroy, 330 ft. S and E lines, 40-ac. lse., Gallagher Sur. Sd. 4,436-43 ft.; comp.; 125 B.P.H. on 5/32-in. ck.

Texon Drlg. Co. No. 5 McElroy, 40-ac. tr., Gallagher Sur. Set surf. csg.; W.O.C

Texon Drlg. Co. No. 4 Scoggin, 660 ft. S No. 2, 330 ft. E line, N 50-ac. tr., Sur. 315. Sd. 4,541-55 ft.; set csg.; W.O.C.

Texon Drlg. Co. No. 4 Vance, 660 ft. N No. 1, 330 ft. E line, 253.67-ac. tr., Gallagher Sur. Oil sd. 4,418-45 ft.; perf. 4,425-45 ft.; comp.; no gauge.

W.A.R. Oil Co. No. 3 Buckholt, 259-ac. tr., Sur. 316. Drlg. 3,992 ft.

W.A.R. Oil Co. No. 1 Hoelscher, 2,870 ft. N line, 330 ft. W line, Blk. 22, J. C. Russell Farm Trs. Perf. 4,593-4,605 ft.; comp.; 117 B.P.D. on ½-in. ck.

Wynne Drlg. Co. and Coker No. 2 Morgan, 160-ac. tr., G.S.&F. Sur. Sd. 6,287-99 ft.; set csg. 4,619 ft.; W.O.C.

Wynne Drlg. Co. No. 2-B R. Morgan, 80-ac. tr., Sur. 315. Sd. 4,452-60 ft.; set csg.; W.O.C.

Wynne Drlg. Co. No. 3-A R. Morgan, 80-ac. tr., Sur. 315. Set surf. csg.; W.O.C.

Plymouth—San Patricio County

Magnolia Pet. Co. No. 11 Corpus Christi Bank, sec. 24, Fourth Addn., Taft Lds. Drk.

Plymouth Oil Co. No. 61-C Welder, sec. 49. Drlg. 5,621 ft.

Plymouth Oil Co. No. 64-C Welder, sec. 71. set surf. csg. 383 ft.; S.D.

Stanolind O. & G. Co. No. 1 Corpus Christi Land Bank, Lot 2, sec. 24, Fourth Addn. D.S.T. 5,882-95 ft.; 800 ft. P.L. oil 10 min.; W.P. 85 lbs.; completing.

Sun Oil Co. No. 8 Hunt, Blks. 5 and 6, sec. 34. Set csg. 358 ft.; W.O.C.

Taft Field—San Patricio County

Atlantic Ref. Co. No. 2 Pullin, Lot 4, sec. 1, Second Addn., Taft Farm Lds. Drlg. 1,212 ft.

Humble O. & R. Co. No. 7 Mayo, 150 ft. S and E lines, 640-ac. tr., Ottman Sur. Drk.

Humble O. & R. Co. No. 10 Mayo, Wm. Burns Sur. T.D. 4,367 ft.

Humble O. & R. Co. No. 12 Mayo, 1,780 ft. E line, 330 ft. S line, 320-ac. tr., Ottman Sur. Cg. oil sd. 3,980 ft.

White Point—San Patricio County

Earl Calloway No. 1 White Point Dev. Co., 330 ft. E line, midway N and S lines, G. Seguin Sur. No. 5. T.D. 6,512 ft.; P.B. to 3,700 ft.; cd. sd. 4,900-14 ft.; rng. screen and lnr.

Los Olmus—Starr County

Ted Stone No. 1 Kelsey-Bass, Porc. 87, J. of Camargo. Drlg. sh. 237 ft.

Margo—Starr County

Braden & Richards No. 1 L. Garcia, C 20-ac. tr., Sh. 7-B, Porc. 71. Oil sd. 394-96 ft.; S.D.

Rio Grande City—Starr County

Sam Adams No. 1 Garza, Sh. 30-A, Porc. 80. S.D. 524 ft.

Coreta Oil Co. No. 5 Doyno, Blk. 1, Tr. 77-A, Porc. 81. Spudded; S.D.

Fech Oil Co. No. 1 F. Doyno, Blk. 4, Tr. 77-A, Porc. 81. Spudded.

Carolina-Texas—Webb County

E. J. Sawyer No. 2 Webster, 330 ft. S line, 1,980 ft. W line, Sur. 684, Fsg. 2,-950 ft.

Cole—Webb County

L. H. Sexton No. 1 R. Benavides, Blk. 4, Sur. 22, Cole Subd. Drlg. 2,843 ft.

O'Hern—Webb County

Cole Pet. Co. No. 1 Benavides, Blk. 483, Hale Subd. Cg. 2,857 ft.

Hamil & Smith No. 11 Benavides, Blk. 367, Hale Subd. Comp.; 416 B.P.D. on ⅝-in. ck.; sd. 2,911-17 ft.

Hamil & Smith No. 12 Benavides, C Blk. 314, Hale Subd. Comp.; 35 B.P.H.; T.D. 2,915 ft.

Hamil & Smith No. 13 Benavides, C Blk. 313. Drlg. 2,416 ft.

Hamil & Smith No. 30 Benavides, Hale Subd. Comp.; 22 B.P.H.; T.D. 2,936 ft.

Magnolia Pet. Co. No. 15 S. Benavides, Hale Subd. Drlg. 126 ft.

H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Loc.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173, M.I.M.

Starr & Killam No. 1 Bruni, 330 ft. N and NW lines, Sur. 585. Spudded.

Charco Redondo—Zapata County

W. C. Bob No. 1 Martinez, 150 ft. NW and NE lines, Blk. 22, Randado Gr. Spudded; S.D. 50 ft.

Cuellar—Zapata County

Nordan & Morris No. 1 Cuellar, 2,970 ft. SE line, 3,150 ft. NE. line, tr., Cerrito Blanco Gr. T.D. 1,620 ft.; S.D.

Escobas—Zapata County

Sam Evans No. 1 Garza, Blk. 19, Zorro ranch, R.U.

H. & R. Oil Co. No. 4 Garza, Blk. 11. Cg. 1,213 ft.

Glen Harroun No. 1 Garza, Blk. 10, Zorro ranch, Comp.; 150 B.P.D. on pmp.; sd. 1,255-63 ft.

Glen Harroun No. 2 Garza, Blk. 10, Zorro ranch, Comp.; 150 B.P.D.; T.D. 1,263 ft.

Glen Harroun No. 4 Garza, Blk. 10, Zorro ranch, Cg. 1,163 ft.

Frank Schneider No. 4 Garza, Blk. 20. Tstg. sd. 1,165-74 ft.

Texas Co. No. 94 Jennings, 250 ft. S No. 7, Cerrito Blanco Gr. Drlg. sh. 1,813 ft.

Haynes—Zapata County

Gilcrease Oil Co. No. 14-B Haynes, Blk. 4, Haynes Subd. Comp.; 12 B.P.D.; T.D. 989 ft.

United Prod. Co. No. 2 Haynes, Blk. 13. T.D. 1,084 ft.; D.&A.

United Prod. Co. No. 3 Haynes, Blk. 13. T.D. 1,162 ft.; D.&A.

United Prod. Co. No. 6 Haynes, Blk. 13. Drlg. 862 ft.

E. C. TEXAS WILDCATS

Angelina County

Hicks et al No. 10-B Morris, 200 ft. from N and 300 ft. from E of 120-ac. tract, J. Morris Sur., 3 mi. E of Diboll. Loc.

C. D. Neff No. 1 Long Bell Lbr. Co., J. F. Gilbers Sur., 6¼ mi. NW of Huntington. S.D. 1,970 ft.

W. A. Stone et al No. 1 Southern Pine Lbr. Co., B. J. Thompson Sur., 8 mi. SE Lufkin. Drlg.

Cherokee County

General Crude Oil Co. No. 1 L. S. Stockton, 330 ft. S and 1,365 ft. W of 100-ac. tr., S. Jarboe Sur., 6 mi. NE of Jacksonville, M.I.R.

Dr. Hancock No. 1 Pryor, R.U. and S.D.

A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Falls County

R. M. Hefflin No. 1 T. E. Battle Heirs Sur., 3 mi. SW of Marlin. S.D. 2,082 ft.

Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott. S.D. 62 ft.

Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. S.D. 1,286 ft.

Valeria Oil Co. No. 1 Galloway, Wm. M. Rice Sur., 1½ mi. S of Leonard. S.D. 3,181 ft.

Freestone County

Velvet Oil Co. No. 1 Beauchamp, Top Austin 3,362 ft.; drlg. 3,385 ft.

Yancey et al No. 1 Scott, Church Lot H. Awalt Sur., W of Stewartsville. S.D. 3,600 ft.

Henderson County

Coaden Oil Co. No. 1 Miller, Drlg. 3,022 ft.

McDougal et al No. 1 E. Price, M. Mathews Sur., 4 mi. S of Trinidad. S.D. 3,831 ft.

Sparks et al No. 1 Berry, Young Sur., 6 mi. S of Brownsville. S.D. 100 ft.

Hunt County

Penn Oil Corp. et al No. 1 A. B. Manning, 5 mi. NE of Lone Oak, S. Owens Sur. Drk.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos King Sur. Drk.

Leon County

J. B. Daniels et al No. 1 Carter, S.D. 200 ft.

Roth & Faurot No. 1 J. L. Shaw, O. R. Reams Sur., 5 mi. N of Centerville. Drlg. 2,900 ft.

Nacogdoches County

L. C. Bonhan et al No. 1 Angelina Lbr. Co., in J. Gomez Sur., 14 mi. SE of Nacogdoches. Drlg. 5,015 ft.

Collier et al No. 1 A. T. Mast, T. J. Lambert Sur. Drlg. 3,341 ft.

Rains County

Humble-Tide Water Oil Co. No. 1 Easter, Pecan 2,177-2,862 ft.; drlg. 3,100 ft.

Humble and Tide Water Oil Co. No. 1 Easter, R. Hotchkiss Sur., 5 mi. NW Alba. Set csg. 444 ft.

Red River County

Abercrombie and Harrison No. 3 Southern Pine Lbr. Co., D. D. Bruton Sur., 10 mi. NE of Clarksville. Drlg. 1,660 ft.

Carpenter Oil Co. No. 1 R. E. Anderson, S. W. Sims Sur., 3 mi. N of Clarksville. Cg. 1,272 ft.

M. Petroff et al No. 1 R. G. Morris, J. Guest Sur., 2 mi. W of Detroit. S.D. 20 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, C of 75-ac. tr. in G. A. Nixon Sur., 3½ mi. SW of Hearne. S.D. 2,250 ft.

Rusk County

John W. Merritt No. 1 J. A. Stallings, T. Uzzell Sur., 2¼ mi. S of East Texas field. Austin 3,700-3,870 ft.; oil sd. 3,-882 ft.; cg. 3,885 ft.

Smith County

W. L. Cloud No. 1 Kendall, Crooked hole 2,000 ft.

Upshur County

B. L. Watson No. 1 W. O. Irwin, D. Cannon Sur., NE cor. of county. Drk.

Wood County

G. W. Nix et al No. 1 E. A. Russell, J. Delap Sur., SW cor. of county. S.D. 600 ft.

EAST TEXAS

(Border Counties)

Bowie County

Woodley & Bentley No. 1 Lumpkin, J. McDermott Sur., 1 mi. SW Dalby Spgs. T.D. 3,910 ft.; S.D.

Cass County

American Lib. No. A-3 Baugus, J. H. Rives Sur., Lot 12. Drlg. 5,000 ft.

American Liberty No. 4-A Baugus, J. H. Rives Sur. Cg. 6,024 ft.

American Liberty No. 2-B Baugus, Lot 14, J. H. Rives Sur. Drlg. 2,400 ft.

American Liberty No. 2 Sheppard, Lot 11, J. H. Rives Sur. R.U.

American Liberty No. 1 Wiley, 58-ac. tr., James Davenport Sur. Comp.; flw. 568 bbls. in 24 hrs.; T.D. 6,000 ft.

American Liberty No. 2 J. Wiley, SE cor. 58.86-ac. tr., J. Davenport Sur. Drlg. 4,-992 ft.

American Liberty No. 3 J. Wiley, 56-ac. tr., J. Davenport Sur. Drlg. 4,240 ft.

American Liberty No. 4 J. Wiley, C E and W line, 56-ac. tr., J. Davenport Sur. Loc.

Bay Oil Co. No. 1 G. E. Parker, SE cor. Greenham Sur. Perf. csg.; swbg. and tstg.; T.D. 6,116 ft.

Gulf Prod. Co. No. 1 Dawson et al, NE cor. of tr., J. H. Rives Sur. Comp.; flw. 347 bbls. in 24 hrs.; T.D. 6,006 ft.

Gulf Prod. Co. No. 2 Dawson et al, NW cor. lse., J. H. Rives Sur. Drlg. 1,545 ft.

Herman L. Brown No. 2 R. P. Willis, on 31½-acre trk. in Robert Trammel Sur. Drlg. 5,377 ft.

P. L. Hoffman et al No.1 Davis, James Smith Sur., SE cor. 58-ac. tr. R.U.

H. L. Hunt No. 1 I.N.&C.L. Shelton, SE cor. 202-ac. tr., J. Davenport Sur. Drlg. 5,981 ft.

W. F. Lacey No. 1 J. Lewis, NW cor. B. E. Echols 17.4-ac. lse., H. Holbert Sur. Drlg. 1,700 ft.

Magnolia No. 6 J. E. George, SW cor. John Collum Sur. T.D. 6,048 ft.; tstg.

Magnolia No. 7 J. E. George, SE cor. John Collum Sur. Loc.

Magnolia No. 8 J. E. George, SE cor. John Collum Sur. Loc.

Magnolia Pet. Co. No. 12 J. E. George Est., John Collum Sur., NW cor. George tr. Drlg. 2,019 ft.

Magnolia Pet. Co. No. 14 J. E. George Est., NW cor. George tr., John Collum Sur. Drlg. 3,222 ft.

Magnolia No. 8 A. S. Hall, SE cor. James Young Sur. T.D. 6,081 ft.; tstg.

Magnolia No. 1 Meda Green, SW cor. J. Davenport Sur. Drlg. 2,755 ft.

Magnolia Pet. No. 2 Meda Green, James Davenport Sur., SE cor. 73-ac. lse. Drlg. 3,200 ft.

Magnolia No. 4 Meda Green, on Jesse Baugus 60-ac. tr., J. Davenport Sur. Drlg. 4,500 ft.

Magnolia No. 5 Meda Green, James Davenport Sur., 245-ac. lse. Drk.

Magnolia No. 2 Noel Est., Wm. B. Hughes Sur., NE cor. Noel lse. Loc.

Magnolia Pet. Co. No. 5 Rives, SE cor. John Collum Sur. Arg. reacidize; T.D. 6,035 ft.

Magnolia No. 7 Rives, NE cor. John Collum Sur. Drlg. 5,627 ft.

Magnolia No. 8 Rives, NE cor. John Collum Sur. 7-in. cmt. 6,054 ft.; T.D. 6,-067 ft.

Magnolia No. 9 Rives, NE cor. John Collum Sur. Drlg. 5,596 ft.

Magnolia No. 10 Rives, NE cor. John Collum Sur. Set 16-in. 240 ft.; W.O.C.S.

Magnolia No. 11 Rives, John Collum Sur., 804 ft. SE of No. 6. R.U.

Magnolia No. 1 Thornton Hrs., Wilson Robinson Sur., NE cor. 30-ac. tr. Loc.

Magnolia No. 1 Wall & McLeod, NE cor. 82-ac. lse., Alex Archer Sur. Drlg. 580 ft.

Magnolia No. 2 Wall & McLeod, NW cor. 82-ac. lse., Alex Archer Sur. Drlg. 1,-300 ft.

Magnolia No. 3 Wall & McLeod, SE cor. 82-ac. lse., Alex Lrcher Sur. 16-in. 245 ft.; W.O.C.S.

Magnolia No. 4 Wall & McLeod, SW cor. 82-ac. lse., Alex Archer Sur. R.U.

R. W. Norton No. 3 A. S. Hall, NW cor. E. E. Hill 60-ac., John Collum Sur. Prep. acidize; T.D. 6,097 ft.

R. W. Norton No. 3 J. T. Moore, Wm. R. Myers Sur., 210-ac. tr. Drlg. 3,060 ft.

Ohio Oil Co. No. 4 R. P. Willis, S.F.I.W. Sur. Drlg. 5,792 ft.

Ohio Oil Co. No. 5 R. P. Willis, S.F.I.W. No. 1263 Sur. Drk.

Ohio Oil Co. No. 6 R. P. Willis, 1,226 ft. SE of No. 2, S.F.I.W. No. 1,263 Sur. Rng. 7-in.; T.D. 5,973 ft.

Ohio Oil Co. No. 7 R. P. Willis, S.F.I.W. No. 1,263 Sur. Loc.

Ohio Oil Co. No. 9 R. P. Willis, S.F.I.W. Sur. No. 1,263, SW of No. 3. Drk.

Ohio Oil Co. No. 10 R. P. Willis, 933 ft. S of No. 4, S.F.I.W. Sur. No. 1,263. Drlg. 2,430 ft.

Ohio Oil Co. No. 12 R. P. Willis, SE cor. 320-ac. tr., S.F.I.W. Sur. 1,263. Drlg. 210 ft.

Phillips Pet. Co. No. 1 Chew, SE cor. 207-ac. lse., Robt. Trammel Sur. Drk.

Phillips Pet. Co. No. 2 Chew, 1,460 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. Drlg. 935 ft.

Phillips Pet. Co. No. 3 Chew, 2,324 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. Drlg. 2,720 ft.

Phillips Pet. Co. No. 2 Farrier, on 200-ac. tr., Wm. Myers Sur. Drlg. 2,275 ft.

Phillips No. 3 Farrier, Wm. R. Myers Sur., 220-ac. lse. Loc.

Phillips No. 4 Farrier, Wm. R. Myers Sur., 933 ft. W of No. 2. Loc.

Phillips Pet. Co. No. 1 G. E. George, Wm. R. Myers Sur. Drlg. 5,561 ft.

Phillips Pet. Co. No. 1 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Loc.

Phillips Pet. Co. No. 2 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Drlg. 1,092 ft.

Phillips Pet. Co. No. 3 Skinner, 160-ac. tr. in S.F.I.W. Sur. No. 1,025. Drlg. 3,-175 ft.

Phillips Pet. Co. No. 3 Wartzbaugh, 438 ft. N and midway between E and W line of lse., Robt. Trammel Sur. 7-in. cmt. 6,132 ft.; T.D. 6,150 ft.; W.O.C.S.

Phillips Pet. Co. No. 1 M. Wasson, W. R. Myers Sur., 27-ac. tr. Drlg. 4,500 ft.

Showers & Moncrief No. 5 T. H. and Sallie Stalcup, Robt. Trammel Sur. Comp.; flw. 25 B.P.H.; 5/16-in. tbg. ck.; T.D. 5,994 ft.

Showers & Moncrief No. 6 T. D. and Sallie Stalcup, Robt. Trammel Sur., 330 ft. S and 1,338 ft. W line, Loc.

Showers & Moncrief No. 8 T. D. and Sallie Stalcup, Robt. Trammel Sur., midway between E and W line of lse. Loc.

Spray Oil Co. No. 1 Scott, 25-ac. lse., midway N and S, Robt. Trammel Sur. Drlg. 3,614 ft.

Spray Oil Co. No. 2 Scott Adams, 25-ac. tr., Robt. Trammel Sur. Loc.

Superior Oil No. 5-A Chew, W.D.&C.C. Tract, Robt. Trammel Sur. Drlg. 5,-582 ft.

Texas Co. No. 2 W. M. Hall, Alex Archer Sur., 664 ft. W of E line. Loc.

Texas Co. No. 3 W. M. Hall, Alex Archer Sur., 665 ft. W of E line and 675 ft. S of No. 2 Hall. Loc.

Texas Co. No. 4 W. M. Hall, Alex Archer Sur., 665 ft. W of E and 337 ft. N of S line of 164-acre trk. Loc.

Texas Co. No. 1 J. B. McLeod, W. A. Elliott Sur., 1,416 ft. W of E and 466 ft. S of N, 160-ac. tr. 7-in. cmt. 6,050 ft.; T.D. 6,095 ft.; W.O.C.S.

Texas Co. No. 2 J. B. McLeod, W. A. Elliott Sur., 440 ft. E of W and 495 ft. S of N line of 160-acre trk. Loc.

Texas Co. No. 1 N. A. Rambo, C. C. Sch. Ld. Sur., SW cor. 160-ac. lse. Loc.

Tide Water No. 1 W. D. Chew, Robt. Trammel Sur., 150 ft. N of S line, midway between E and W lines of 20-ac. lease. Derrick.

Tide Water No. 2 C. C. Chew, on 55-ac tr., Robt. Trammel Sur. Drlg. 4,102 ft.

Tide Water No. 3 C. C. Chew, NW cor. 55-ac. tr., Robt. Trammel Sur. 16-in. cmt. 261 ft.; W.O.C.S.

United Prod. Co. No. 1 Bewley, H. Holbert Sur., 330 ft. S and W NW cor. of Susie Chatten 160-ac. tr. Rg. 6,000 ft.

United Prod. Co. No. 2 Bewley, 467 ft. N and W of So. SW cor. George 200-acre tr. Drlg. 5,566 ft.

United Prod. Co. No. 3 J. R. Jones, Ben J. Murray Sur. Loc.

United Prod. Co. No. 6 J. R. Jones Unit, SE cor., Ben J. Murray Sur. Drlg. 5,-520 ft.

United Prod. Co. No. 7 J. R. Jones Unit, SE cor., Ben J. Murray Sur. Drlg. 2,-300 ft.

United Prod. Co. No. 8 J. R. Jones Unit, SE cor., Ben J. Murray Sur. Drlg. 4,-530 ft.

United Prod. Co. No. 1 Rambo Unit, Robt. Trammel Sur., 330 ft. N and W SE cor., Maden Rambo 40-ac. tr. Drlg. 5,-360 ft.

United Prod. Co. No. 2 Rambo Unit, 330 ft. S 385 ft. W NE cor. Maden Rambo 25-ac. tr., Robt. Trammel Sur. Drlg. 5,-600 ft.

United Prod. No. 3 Rambo Unit, 385 ft. W of westerly SW cor. of Stalcup trk., Robt. Trammel Sur. Drlg. 5,884 ft.

United Prod. No. 4 Rambo Unit, 330 ft. S and 385 W NW cor. Stalcup 20-ac. trk., Robt. Trammel Sur. Cg. 5,950 ft.

United Prod. No. 5 Rambo Unit, Robt. Trammel Sur., 150 ft. N and 311 ft. W of SE cor. H. A. Trammel 183-ac. trk. Fsg. D.S. 6,015 ft.

United Prod. No. 6 Rambo Unit, Robt. Trammel Sur., 150 N. 314 W SE cor. H. A. Thomas 83-ac. tr. Drlg. 5,164 ft.

United Prod. Co. No. 7 Rambo Unit, Jas. Davenport Sur., H. A. Thomas 83-ac. tr. Drk.

United Prod. Co. No. 8 Rambo Unit, Jas. Davenport Sur., H. A. Thomas 83-ac. tr. Loc.

United Prod. Co. No. 7 J. T. Stewart, M. Stewart 49-ac. lse., John Collum Sur. Comp.; flw. 27 B.P.H.; ½-in. tbg. ck.; T.D. 6,050 ft.

United Prod. No. 8 J. T. Stewart Unit, John Collum Sur. of 81.9-ac. tr. Drlg. 4,563 ft.

United Prod. No. 3-A J. T. Wall, Alex Sur., on J. T. and J. D. Wall 82-ac. trk. Drlg. 5,853 ft.

United Prod. No. 4-A J. T. Wall, Alex Sur., on J. T. and J. D. Wall 82-ac. trk. Drlg. 3,882 ft.

United Prod. Co. No. 3 Tyson Unit, J. H. Rives Sur. Drlg. 3,300 ft.

Harrison County

Geyer Oil Co. No. 1 Alex Moore, 5 mi. SW of Waskom, C. W. Fields Sur. R.U.

Geyer Oil Co. No. 2-A Vincent, S. B. Harrison Sur. 5-in. cmt. 2,406 ft.; T.D. 2,407 ft.; W.O.C.S.

Hanover, Bergendoll et al No. 1 Buchanan, Wm. McIlvain Sur. T.D. 4,220 ft.; S.D.

H. H. Roberts et al No. 1 Z. Douglas, S. Fields Sur. Drk.

Marion County

Tom Bell et al No. 1 David Lane, SW C Log 2, Jones Sur. T.D. 72 ft.; S.D.

Sam Lanier No. 1 Lucey Rives, SE cor. M. G. Wall Sur. T.D. 960 ft.; W.O.S.R.

Morefield & Prince No. 1 Benefield, NE cor. Robt. Potter Sur., 4 mi. W of Oil City, La. Drk.

M. H. Overless et al No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. R.U.

Panola County

Danciger O. & R. Corp. No. 1 Tatum, SW cor. A. Bissell Sur. Drk.

Glassell & Glassell No. 1 Williamson, Mary Potts Sur. Drlg. 750 ft.

Lawrel Pet. Co. No. 1 Bucknell, B. Anderson Sur. Cmt. surf. csg.

Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. Acidized; tstg.; T.D. 2,734 ft.

Magnolia Pet. Co. No. 1 E. A. Hull, T. Applewhite Sur. Drlg. 4,923 ft.

Matex Oil Co. No. 1 Thomas M. Alstone, 3 mi. E of Elysian field. Drlg. 1,590 ft.

White-Goodwin Synd. No. 1 Hill, Winnie Mann Sur. R.U.

Yandel Rogers No. 1 Cameron Lbr. Co., Wm. A. Lagrone Sur., 7 mi. N of Carthage. Loc.

Shelby County

Archie Carpenter No. 1 Green (was Farley & Sommers), J. English Sur. T.D. 3,397 ft.; S.W.; D.&A.

Potter & Rubeling G. H. Polly No. 1, Wm. Wisner Sur. T.D. 4,050 ft.; M.I.H.R.

Red Wing Oil Co. No. 1 C. H. Herton, 54-ac. tr. in J. Dowlin Sur. S.D. 1,889 ft.

NORTH TEXAS WILDCATS

Archer County

Archer Drlg. Co. No. 1 L. F. Wilson, sec. 32, A.T.N.C.L. Sur. Drlg. 2,400 ft.

L. T. Burns No. 1 Haytor, T.E.&L. Sur. No. 2,423. Spudded.

L. T. Burns No. 1 White, sec. 34, A.T.N. C.L. Sur. Loc.

J. T. Miller No. 1 J. E. Roller, W. C. Watts Sur. No. A-111. Drlg. 300 ft.

Solo Oil Co. No. 1 Hamilton, Crawford Pasture, Blk. 1. Spudded.

Baylor County

S. P. Morris et al No. 1-B C. T. Porter, E. Brown Sur. A-20. S.D. 1,614 ft.

Bowie County

Woodley & Bentley No. 1 Lumpkin, J. McDermott Sur. Drlg. 3,745 ft.

Clay County

Alexander & Goldsmith No. 1 Byers & Co., sec. 28, Byers Subd. Drlg. 1,500 ft.

Collin County

California Consld. Oil Co. No. 1 Fagg, Jas. Rutherford Sur. 6⅝-in. csg. 2,670 ft.; S.D.O.

Port Bolivar O. & R. Co. No. 1 Durning, Wm. Creegar Sur. S.D.O. 4,098 ft.

Sorrell et al No. 1 D. R. Clark, J. Rowland Sur. Moving in.

Cooke County

Big Indian O. & D. Co. No. 1 T. E. McFadden, G. M. Bonds Sur. A-69. S.D. 2,000 ft.

Wm. D. Compton No. 1 P. Tucker, J. Barnett Sur. A-42. Drlg. 172 ft.

R. B. Farris et al No. 1 Miller, University Sur. A-1,320. S.D. 3,600 ft.

Gratz & Wilson No. 1 Dennis, S. Hernandez Sur. A-437. S.D.O. 190 ft.

B. H. Hilburn No. 1 W. A. Harris, J. Harris Sur. A-502. U.R. 8¼-in. 1,275 ft.

Long & Wolf No. 1 Hopkins, B.B.B.&C. Sur. A-150. S.D.O. 2,500 ft.

Wm. G. Mappas No. 1 W. R. Harpar, W. Pettit Sur. A-812. Drlg. 100 ft.

C. Newburn No. 1 P. G. Dotson, W. Campbell Sur. A-238. Cmtd. lnr. 2,093 ft.; S.D.O.

Sinclair Prairie Oil Co. et al No. 2 A. C. McCall, H. White Sur. A-1,134. Rng. csg.; T.D. 6,950 ft.

Stuck et al No. 1 Elkins, A. J. Shannon Sur. No. A-937. Spudding.

Denton County

Carlysle & Wilson No. 1 J. P. Knox, R. Howard Sur. A-542. Drlg. 800 ft.

J. C. Foster No. 1 Jeffcoat, J. West Sur. Drlg. 785 ft.

C. C. Minnick No. 1 C. N. Price, J. Doughtitt Sur. A-322. Spudded.

Oil Finance No. 1 J. S. Gambill. Fsg. 1,-330 ft.

I. Stogner No. 1 J. Maxwell, Jno. Morton Sur. A-792. Spudded and S.D.

Grayson County

F. Galbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989. Spudded and S.D.

Olson et al No. 1 D. R. Ultger, P. P. Cady Sur. A-301. Drlg. 1,430 ft.

Pete Shaner No. 1 Blair, R. H. Deavers Sur. A-313. Drlg. 2,500 ft.

Jack County

Bryson O. & G. Co. No. 1 O. Loving, T.& N.O. Sur. A-852. Drlg. 1,510 ft.

W. H. Hammon No. 1 G. E. Evett, H. Plaster Sur. 6⅝-in. csg. 2,987 ft.; pipe collapsed; fsg.

Hanlon-Buchanan, Inc., No. 1 Galvin, E. B. Galvin Sur. Drlg. 2,250 ft.

Harper Pet. Corp. No. 1 G. F. Brown, S.

M. Holderness Sur. A-1,532. U.R. 5 3/16-in. csg.

Montague County

Clark-Beckner No. 1 C. W. Bell, sec. 6, M.E.P.&P. Sur. Drk.

T. P. Frost No. 1 Johnson, sec. 6, E.T R.R. Sur. Drlg. 1,500 ft.

W. E. Halbert No. 1 Petty, S. A. Southerland Sur. A-992. Drlg. 1,680 ft.

L. C. Heydrick No. 1 Cliff Dowd, G. W Browning Sur. A-1,274. Drlg. 1,308 ft.

Throckmorton County

R. J. Williams No. 1 W. B. Parrott, T.E.&L. Sur., sec. 961. Drlg. 1,440 ft.

Wichita County

A. E. Blair No. 1 Cody Est., sec. 311, Wagoner Col. Subd. B.S.S.O. 1,880-95 ft.; tstg.

Box & Seaberry No. 1 Krizan, Blk. 43 Cherokee Sch. Lds. Drlg. 600 ft.

King Oil Co. No. 1 M. Stone, G.C.&S.F. Sur. A-758. Drlg. 1,140 ft.

T. B. Medders No. 1 Allen, H.T.&B. Sur. A-129. S.D.O. 1,300 ft.

Palmer et al No. 1 McCarty, S. O. Fowler Sur. No. A-78. R.U.R.

L. Webb No. 1 A. J. Schulz, J. Cole Sur. A-37. Drlg. 910 ft.

Wilbarger County

J. B. Baker No. 1 Waggoner, sec. 65, H. &T.C. Sur. R.U.R.

Rathke Oil Co. No. 1 Waggoner, sec. 33, H.&T.C. Sur. R.U.S.

Young County

R. C. Albright No. 1 W. E. Steele, I.R.R Sur. A-156. Drk.

Alexander & Long No. 1 Goldston, S.P.R.R Sur. A-263. Spudded.

J. W. Cole No. 1 George, T.E.&L. Sur. 107. Loc.

Art Cox No. 1 J. T. Rogers, J. Ray D-1,628. Treating with acid; tstg. sd. and L. 3,608-60 ft.; T.D. 3,660 ft.

Fain-McGaha No. 1 G. P. Stewart., Blk. 6, T.C.S.L. Sur. Drlg. 400 ft.

Hinson & Tidwell No. 1 Jeffery, T.E.&L. Sur., sec. 467. Drlg. 4,185 ft.

Nash & Windfohr No. 1 F. B. Lowery, S H. Criswell Sur. A-1,297. Drlg. 1,300 ft.

Pitzer-West No. 1 Dollins, T.E.&L. Sur., sec. 606. Drlg. 3,700 ft.

A. T. Strong No. 1 Davidson, R. C. Eddleman Sur. A-1,420. Drlg. 2,350 ft.

R. H. Vise No. 1 Dollins, T.E.&L. Sur. 615. R.U.S.T.

C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Drk.

L. W. Wickes No. 1 McCluskey, Green Sur. R.U.C.T.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. Tstg. 4,070-90 ft.

WEST TEXAS WILDCATS

Andrews County

Grisham Hunter Corp. No. 1 Ratliff & Bedford. Drlg. on iron 3,730 ft.

Wm. Hannigan No. 1 Logsden, sec. 5, Blk. A-32. R.U.R.

R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. T.D. 4,556 ft.; C.O. 100 ft. off bottom.

Sinclair Prairie Oil Co. No. 1 E. Cowden, sec. 12, Blk. 44, Twp. 2n, T.&P. Sur. Loc.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. T.D. 3,690 ft. C.O.

Cochran County

Cascade and Honolulu Oil Corp. No. 1 E. B. Duggan, cen. Labour 13, League 55, Oldham County Sch. Ld.; pay 5,020 ft.; T.D. 5,098 ft.; P.B. 5,063 ft.; 125 bbls. C.O.

Coke County

H. E. Ogden No. 1 E. C. Rawlins, sec. 391, Blk. 1-A, H.&T.C. Sur., 4 mi. N and 1 mi. W of Bronte. Loc.

Crane County

Big Basin Oil Co. No. 1 Cowden. Set csg. 3,027 ft.

Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. T.D. 6,709 ft.; P.B. to 6,287 ft.; set csg.

Gulf Oil Corp. No. 2 McKnight, sec. 9 Blk. B-21. S.D. 3,651 ft.

Gulf Oil Corp. No. 2 Snodgrass, sec. 1, Blk. B-25. Set csg. 1,130 ft.

Moore Bros. No. 1 Barnsley, sec. 43 Blk 32, P.S.L. Sur. T.D. 6,262 ft.; swedging csg.

Dawson County

Roy Albaugh et al No. 1 J. Robinson, S.D. 5,038 ft.

Ector County

Empire G. & F. Co. No. 1-D Cummins, 2,200 ft. S and 440 ft. W, sec. 23, Blk. 45, Twp. 1n, T.&P. Sur. Drk.

Sinclair Prairie No. 1-A Johnson, sec. 43 Blk. 42, Twp. 1s, T.&P. Sur. Drlg. 6,023 ft.

Stanolind O. & G. Co. No. 2-B Cowden T.D. 4,451 ft.; P.B. 4,303 ft.; shot; C.O.

York & Harper No. 1 Foster, 330 ft. from S and W, sec. 8, Blk. 42, Twp. 2s, T.&P. Sur. T.D. 4,119 ft.; drlg. by whipstock.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless Drlg. 1,572 ft.

Forest Dev. Co. No. 1 A. M. Dry, sec 108, Blk. 2, H.&T.C. Sur. T.D. 4,537 ft.; ran tbg. to perf. and acidize.

L. A. Long et al No. 1 J. L. Mayberry, sec. 56, Blk. 1, H.T.&B. Sur. Drlg. 1,425 ft.

Southern Oil Co. No. 1 Robinson, 1,320 ft. N and 1,980 ft. W, sec. 172, Blk. 2, H.&T.C., 2½ mi. NE of Raton. Loc.

Gaines County

Amerada Pet. Corp. No. 1-A Averitt, sec 228, Blk. G, W.T.R.R. Sur. T.D. 5,022 ft.; ran tbg. to tst.

Stanolind O. & G. Co. No. 1 Davis. S.D. 3,012 ft.

Stanolind O. & G. Co. No. 1 Morrow. S.D. 320 ft.

Garza County

Gartex Oil Co. No. 2 Post Est., sec. 6, Blk. 5, K. Aycock Sur. T.D. 2,822 ft.; acidized.

Glasscock County

F. Dodson et al No. 1 Carter heirs, sec. 8, Blk. 33, Twp. 3s, T.&P. Sur. T.D. 2,669 ft.; P.B. 2,664 ft.; S.D.

Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. Drlg. 176 ft.

Fleetborn Oil Co. No. 1 Coulson, sec. 19, Blk. 33, Twp. 3s, T.&P. Sur. Drlg. 222 ft.

Moore Bros. No. 1 I.T.I.O. and McDowell, 330 ft. N and 1,321 ft. E. sec. 31, Blk. 34, Twp. 5s, T.&P. Sur. Loc.

Hockley County

Texas Co. No. 1 B. Slaughter, Labour 88 League 38, Zavala Co. Sch. Lds. Fsg. 3,060 ft.

Howard County

Johnson No. 2 Hyman, 330 ft. S and W, sec. 88, Blk. 29, W.&N.W. Sur. Loc.

Jeff Davis County

H. D. Wilcox et al No. 1 Jones & Coffield, 500 ft. N and 358 ft. E, sec. 121, Blk. 4, H.&T.C. Sur. Spudded.

Jones County

Humble O. & R. Co. No. 1 Alexander, Sub. 4, W. C. Walker Sur. Drlg. 1,633 ft.

Kleiner No. 1 G. Fields, S. Andrews Sur. S.D. 1,060 ft.

K. O. T. Oil Co. No. 1 E. C. Duke, sec. 20, Blk. 15, T.&P. Sur., 1 mi. N of Hawley field. Drlg. 1,824 ft.

Oyster & Griffith No. 1 Bumpass, A. Jones Sur., 3 mi. SW of Truby. Drlg. 1,111 ft.

J. L. Reeves No. 1 Kelly, C. Martinez Sur. 1½ mi. N of Hawley. Drlg. 500 ft.

Texas Inland Oil Co. No. 1 J. K. Pittard, sec. 27, Orphan Asylum Lds. Spudded and S.D.

Tiner et al No. 1 Rainwater, sec. 34, Blk. 2, S.P. Sur. Drlg. 283 ft.

Ungren & Frazier No. 1 Davis & Stemmons, Lot 7, F. M. Smith Sur. No. 3, 2½ mi. SW of Lueders. T.D. 1,505 ft.; U.R. csg.

Nolan County

Dr. Robinson Co. No. 1 E. Gabler, 330 ft. N and 2,310 ft. E, sec. 26, Blk. X, T. &P. Sur. R.U.S.T.

Pecos County

Bahan & Rhodes No. 1 Bonebrake. Drlg. 1,920 ft.

Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. Drlg. 1,526 ft.

C. A. Everts No. 1 W. S. Tyrell, sec. 508, G. Montez & Duran Sur. S.D. 1,728 ft.; to set pipe.

Kirk et al No. 1 Potts, sec. 6, Blk. 9, H.& G.N. Sur. T.D. 1,774 ft.; tstg.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. Fsg. 2,815 ft.

S Thompson No. 1 Elsinore Cattle Co sec. 54, Blk. D, G.C.&S.F. Sur. T.D. 3,816 ft.; rmg.

Trans-Pecos Oil Co. No. 2 Caldwell, sec. 27, Blk. 50, T.&P. Sur. S.D. 1,300 ft.

Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. T.D. 510 ft.; C.O.

Presidio County

Lindeman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R. Co. Sur., 2½ mi. NE of Presidio. Drlg. 2,508 ft.

A. H. Main No. 1 Greenlee, 1,080 ft. S and 660 ft. W. sec. 40, Blk. 347, 13 mi. NE of Marfa. Loc.

Schleicher County

Magnus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; to acidize again and test.

Terrell County

Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. Drlg. 6,966 ft.

Terry County

W. L. Pickens et al No. 1 Lewright. Drk.

Uscan Oil Co. No. 1 Brownfield C N sec. 54, Blk. K, P.S.L. Sur. T.D. 4,675 ft.; to run csg.

Tom Green County

Webb Bros. No. 1 J. F. Schrivener, Krending Sur. 1,663, 3 mi. N and E of Van Court. Drlg. 512 ft.

Upton County

R. H. Henderson No. 1 Reese, sec. 16, Blk 3½, C.C.S.D.&R.G.N.G. Sur. T.D. 660 ft.; to pull csg.

Moore Bros. No. 1 Giddings, Sub. 25. Throckmorton Co. Sch. Lds. Drlg. 540 ft.

J. H. Myles & Son No. 1 Hughes, 2,310 ft. N and W, sec. 91, Blk. Y, G.C.&S.F. Sur. M.I.M.

Dan Short No. 1 Webb, 1,650 ft. N and 2,310 ft. W, sec. 174, Blk. E, C.C.S.D.& R.G.N.G. Sur. Loc.

Ward County

Findley & Cherry No. 1 Sealey, sec. 54 Blk. F. G.M.M.B.&A. Sur. Drlg. 1,289 ft.

Prince Bros. Drlg. Co. No. 1 Monroe, sec. 52, Blk. 34, H.&T.C. Sur. Fsg. 2,846 ft.

Winkler County

Bert Fields et al No. 1 Walton, sec. 3, Blk. C-23. T.D. 3,204 ft.; P.B. 3,171 ft.; flwg. 10 bbls. fluid per hr.; 38% wtr.

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. S.D. 4,012 ft.

Yoakum County

Texas Pacific Coal & Oil Co. No. 1 Bennett, sec. 678, John H. Gibson Sur. Drlg. 2,575 ft.

RANGER (WEST CENTRAL TEXAS) DISTRICT

Brown County

Brown & Gardner No. 1 Triplett, 1 mi. SW of Cross Cut, 870 ft. from W, 150 ft. from S farm in W. B. Travis Sur., sec. 148. Drlg. 500 ft.

Callahan County

H. V. House et al No. 1 R. Smart "B," 5 mi. SW of Admiral, 150 ft. from N, 1,000 ft. from E. W. T. Lassiter Sur. Loc.

Coleman County

Midfield Oil Co. No. 1 T. H. Ward, 150 ft. from N and W lines of SE SE sec. 274, W. Echels Sur. Drlg. 975 ft.

Comanche County

H. L. Baughman No. 1 Hardin, 4,025 ft from S and 700 ft. from W of Isa Hoxey Sur. S.D. 800 ft.

Eastland County

Ashburn and Luke No. 1 Scott, 1,280 ft. from S and 474 ft. from E line of A. Tarter Sur. Drlg. 2,980 ft.; rng. 6⅝-in.

F. J. Estes No. 1 Gentry, 150 ft. from S and E lines of A. Popejoy Sur. S.D. 1,850 ft.

Hamilton County

Seaboard Oil Corp. No. 1 fee, 660 ft. from N and E lines of W½ of A. C. Grimes Sur., 10 mi. N of Hamilton. Drlg. 650 ft.

Palo Pinto County

W. K. Gordon et al No. 1 Cantey, 450 ft. from S and W lines, sec. 44, Blk. 2, T. &P. Sur. O.S. 1,270-85 ft.; est. 10,000,000 ft. gas and 2,255-75 ft. est. 250,000 ft. gas; drlg. 2,495 ft.

Shackelford County

H. C. Akins et al No. 1 J. E. Swenson, C F½ sec. 14, A.B.&M. Sur. Loc.

C. Morton et al No. 1 G. R. Davis, C SE NE sec. 55, Blk. 13, T.&P. Sur., 17 mi. SW of Albany. Drlg. 955 ft.

Stephens County

W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, 800 ft. from E, 400 ft. from S, W½, sec. 10, Blk. 3, S.P.R.R. Sur. Loc.

Throckmorton County

Canyon O. & G. Co. No. 1 Lily, 2 mi. SW of Throckmorton, 150 ft. from E, 450 ft. from S, sec. 279, B.B.B.&C. Sur. Loc.

Central West Fields

(Continued from Page 82)

In Fraction 17, Ames Township, Athens County, D. T. Orndoff No. 1 G. L. Bryson was completed in second Berea sand at 1,374-80 feet and gauged 104,000 feet of gas with a rock pressure of 600 pounds. In section 16, Lodi Township, Ohio Fuel Gas Co. completed a gas well on the state of Ohio property in the Maxburg Stray sand at 735-42 feet. In section 23, Ohio Fuel Gas Co. has staked a location on the Howard McClain farm. In Fraction 30, Ames Township, Pearl Miller has a machine on the A. A. Kasler property, and in Fraction 34 D. T. Orndoff is down 350 feet on the William Mingue location. In Rome Township, section 17, Leeper & Co. is moving a rig on the Frank Johnston location for No. 2. Gibbs Farm Oil & Gas Co. is spudding on the A. B. Wingett farm in section 6, Lee Township.

In Meigs County, section 16, Bedford Township, A. W. Bengal No. 1 Cora Ater & Co. made 238,000 feet of gas naturally at 1,100 feet and may be drilled deeper. In section 22, same township, C. A. Cody No. 2 Ella Douglas was completed below the first Berea sand at 1,561-75 feet and gauged 104,000 feet of gas naturally and had a rock pressure of 530 pounds. In section 34, Lebanon Township, Ohio Fuel Gas Co. No. 1 Lubert Theiss was drilled through the first Berea sand at 1,983-86 feet and was a small commercial gas well. Meigs Developing Co. is rigged up on the Jennie Allen farm for No. 7 in section 17, same township, and in section 31 the same operators are rigged up on the Charles Curs Estate property. In section 35, same township, Goodfellows Co. No. 9 Elias Jividen Estate topped the Berea at 1,967 feet, was drilled to a total depth of 1,976 feet and gauged 473,000 feet of gas naturally and had a rock pressure of 620 pounds. In Rutland Township, section 34, McTaggart & Co. are spudding on the Harry Plummer location, and in section 9 Ohio Fuel Gas Co. has staked a new location on the Don Anderson property.

INDIANA FIELD

In the Indiana field this past week nine completions were reported, two fair oil producers, two commercial gas wells and five failures.

The oil wells were completed in Vanderburgh County, German Township, by K. R. Bixby. The first well was drilled on the Fred Pfettscher farm, in the NW SW section 30-5s-11w. It was drilled to a total depth of 1,248 feet and produced 25 bbls. after a shot. The second producer was drilled on the Christ Ziss farm, in the SW SW of section 30, to a total depth of 1,222 feet and had an initial production of 20 bbls. In section 31, same township, Carl Michel is drilling a well on Amelia Dye property. P. E. Tichenor No. 1 Jasper Effinger was drilled to a depth of 1,300 feet without a show of oil or gas and was abandoned. This failure was located in the W half NE of section 23, German Township.

In Pike County, SW NW of section 33, Clay Township, Murphy Oil Co. of Pennsylvania No. 3 Stewart Brothers was abandoned as a failure at 1,381 feet. Same operators are moving in rig for No. 4 on thts property. In section 32 Harry Hanson & Co. are completing No. 2 Mrs. L. E. Dickerson. In Jefferson Township, section 19, Trussler & Lafollette No. 1-A Jim Fettinger was drilled to a total depth of 1,135 feet and was a commercial gas well. The same operators completed a commercial gas well on the Luther Shelby property in the same section.

Haney & Hollingsworth No. 3, on the Ed Hugg farm, in section 7, Anderson Township, Perry County, was drilled through the sand at 605 feet without a show of oil or gas and was abandoned as dry. The same operators also completed a failure on the William Kress farm in section 8. In Clark Township, section 27, Gardner Oil Co. is drilling No. 2 on the Mrs. M. Flamion property. McGrain Oil & Gas Corp. No. 2 John Farley in section 25, Oil Township, was a dry hole. In section 18, Charles Wyman is completing on the Ida Poisser farm. In Troy Township, section 21, Louis Stamp is down 660 feet on the J. and E. Boerste property.

LEGAL

Call for Bids To Purchase Royalty Oil Accruing to the United States From the Salt Creek Wyoming, Oil Field. Sealed proposals, in duplicate, will be received in the office of the Secretary of the Interior, Washington, D. C., on or before noon, December 1, 1936, from responsible bidders for the purchase, beginning January 1, 1937, of royalty oil accruing to the United States from Government lands in the Salt Creek, Wyoming, oil field. Detailed specifications on quantities offered for sale, required form of bids, deliveries, volume measurements, gravity determinations, bond requirements, and action on bids, should be obtained by prospective bidders from the Director, U. S. Geological Survey, Department of the Interior, Washington, D. C., the Supervisor, U. S. Geological Survey, Casper, Wyoming, or the Register, U. S. Land Office, Cheyenne, Wyoming. Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., pursuant to the specifications, the envelope to be marked plainly "Bid on Salt Creek Royalty Oil". No bid received after the time fixed herein for submitting bids will be considered. Secretary of the Interior. October 30, 1936.

PERSONAL

C. E. TOWNSEND, manager of the insurance department of the Sun Oil Company, at Philadelphia, Pa., long ago began a study of fire prevention in the oil industry for the benefit of his own company, but he got to know so much about the subject that the industry, through the American Petroleum Institute, drafted him for the benefit of the whole oil business. He was made chairman of the committee on fire prevention in refining at the recent A.P.I. meeting in Chicago, and he is also a member of the marketing division's fire prevention committee.

W. B. CASE, of the New York office of the Shell Union Oil Corporation, is making a tour of the Shell producing properties in California, and will return to New York shortly before Thanksgiving.

CARLETON D. SPEED, JR., of the Speed Oil Company, Houston, Tex., is recovering from an appendectomy at the Hermann Hospital, Houston, following a recent plane trip to Detroit, Mich., and Toronto, Ontario.

ROBERT W. ATHA, who has supervised drilling operations for Stewart-Atha, Inc., Mount Pleasant, Mich., one of the principal natural gas-developing concerns in central Michigan fields, has resigned as vice president and general manager of the corporation, and will drill several tests as an independent individual operator.

J. R. CARPENTER and C. P. GREEN, accounting department, Ohio Oil Company, have been transferred from the Tulsa office to the company's home office, Findlay, Ohio. They were with the Transcontinental Oil Company when it was bought by the Ohio company in 1930. GLENN MESSERSMITH, also of the Tulsa accounting department, was transferred to the Texas sales division office at Fort Worth.

HALE B. SOYSTER, chief of the oil and gas leasing division, and W. A. KEARNEY, chief clerk of the leasing division of the U. S. Geological Survey, Washington, D. C., are making an official visit to the U. S. Geological Survey office at Tulsa.

A. V. BOURQUE, secretary-treasurer; JOHN C. DAY, economist; EMBY KAYE, chairman of the manufacturing committee, and G. E. EVERETT, public relations director, all representatives of the Western Petroleum Refiners Association, were among those present at the regional meeting of the association at Shreveport, La., on November 6.

WALDO L. GUNDLACH, formerly handling sales promotion work with Standard Oil Company of Indiana dealers, has been transferred to the advertising department of the company in Chicago. He is now in charge of industrial advertising, and supervising the creation and production of sales-promotion material for Standard Oil's dealer organization.

R. L. MERRILL has assumed management of the Ark-La-Tex district for Lucey Products Corporation. He was formerly with the company in East Texas, Conroe and various Oklahoma and Kansas branches. Mr. Merrill replaces R. E. GIDDENS, who has returned to Tulsa after completion of the temporary assignment of establishing the company's Rodessa store and the Shreveport office.

C. C. CARTWRIGHT, of Vancouver, British Columbia, visited Calgary, Alberta, recently and inspected drilling operations in nearby fields.

CHANDLER WALKER, of Walker & Drake, Windsor, Ontario, left recently for Texas to witness the completion of a well in which he is interested.

J. B. HENDERSON, formerly in the legal department of the Arkansas-Louisiana Gas Companies, Shreveport, La., has resigned to enter private practice in Jefferson, Tex.

A. E. OLDHAM, W. W. McDONALD, A. C. GILBERT and HYMAN CORMAN of Shreveport, La., recently attended the San Antonio Geological Society meeting in that city.

SIDNEY MARTIN, district chief clerk and warehouseman for the Humble Oil & Refining Company in the Pledger district, has been transferred to the Raccoon Bend district.

P. R. TURNBULL, assistant division petroleum engineer at Tyler, Tex., for the Humble Oil & Refining Company, has been transferred to the Flour Bluff district at Corpus Christi, Tex.

"UNCLE BILL" COUPLAND, teaming contractor at Palestine, Tex., gave a wild game and East Texas "bear" (pork) barbecue on a Tide Water Oil Company lease in the Cayuga field, northwest of Palestine, on November 8. About 500 field men and friends attended.

CARL BEAL, JR., son of CARL BEAL, vice president of the Iniskin Oil Company, which is drilling a wildcat on Cook Inlet in Alaska, recently roped a full-grown Alaskan bear and it required the help of half the camp to get Carl loose as the bear had a perverted idea of humor.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

David Smith Cowles, 54, for years a high official in the Standard Oil Company, died at his country home in Rye, N. Y. He resigned in 1902.

Henry F. James, 70, an old whaler who went into the crude oil business when whale oil was being superseded by petroleum, dies in Franklin, Pa.

D. C. Stewart has resigned his position as vice president of the Oklahoma Pipe Line Company, and moved to Corsicana, Tex., where he will continue active pipe line work.

20 YEARS AGO

I. W. W. agitators are telling Oklahoma oil workers that they (the oil workers) are slaves but are having a hard time convincing them.

The Jones boys, B. B. and M., having sold their production and acreage in the Cushing field for $7,000,000, are bidding the oil country goodbye and will retire to the Mississippi farm on which they were born.

Charles G. Fitzgibbon, noted expert tool fisher and one of four Fitzgibbon brothers, Billy, John, Charley and Mike, all successful oil men, dies in Bradford, Pa.

10 YEARS AGO

Gypsy Oil Company opens the Earlsboro pool in section 16-9-5, Pottawatomie County, Oklahoma.

Standard Oil Company of New Jersey directors vote to retire $200,000,000 of 7 per cent preferred stock through the issuance of debentures and common stock aggregating more than $206,000,000.

A total of 2,053 completed wells in the United States east of California was October's record. At the close of the month there were 1,058 rigs up and 4,991 wells drilling, a total of 6,049 field operations, Oklahoma leading with 1,938.

WALTER GUBB, of Gubb & Russell, Detroit, Mich., left recently for a two weeks hunting trip in northern Ontario, Canada, north of Cobalt.

J. C. DALLAS, president of Roxana Petroleum, Ltd., has returned to Calgary, Alberta, from a business trip to Vancouver, British Columbia.

EARL A. SMITH is acting superintendent of the Canadian Oil Companies, Ltd., refinery at Petrolia, Ontario, succeeding the late C. A. HALE.

A. C. MARSHALL, assistant treasurer of Union Oil Company, was recently appointed assistant conductor of the Los Angeles Philharmonic Orchestra.

JOE BISHOP, assistant district chief clerk and warehouseman for the Humble Oil & Refining Company, has been promoted to chief clerk and warehouseman in charge of the Pledger district, Texas.

A. J. MacKINNON, formerly with United Carbon Company, Swartz, La., has become affiliated with Arkansas Fuel Oil Company, and has been appointed operating superintendent of that company's Sligo gasoline plant in Bossier Parish, Louisiana.

PAUL VON WEYMARN, president of Weymarn Petroleums, Ltd., formerly of Oslo, Norway, addressed the Oil and Gas Shareholders Association at Calgary, Alberta, recently on "Some Problems of Oil Exploration and Development in Alberta."

H. R. SCIVALLY, formerly head of the land department for Arkansas-Louisiana Gas Companies, Shreveport, La., has resigned to enter into private business. He is now associated with the Ecco Oil Corporation, which is constructing a small gasoline plant near Sibley, La.

PARAGRAPHS

BILL BURKE, production engineer for Shell Petroleum Company, is now vacationing in New Orleans, La.

CHESTER FEAR, of the State Company was elected chairman of the Los Angeles Basin chapter of the Division of Production of the American Petroleum Institute at its annual meeting; ROBERT L. KEYES, of the Texas Company, vice chairman, and EARL M. REES, of Fluid Packed Pump, secretary-treasurer. An advisory committee consisting of REX MALONE, Oil Well Supply Company; ERNEST PARKS, Standard Oil Company; EDMUND JUSSEN, JR., Union Oil Company; DAVE CALDWELL, Barnsdall Oil Company; R. H. GARRISON, consultant; H. A. BRETT, Union Oil Company; C. M. ROOD, McVicar & Rood; H. H. HILLMAN, Hillman-Kelly; FRANK TRAVERS, Dabney Johnston Oil Company; G. W. COFFEY, Universal Consolidated Oil Company; BERT CLEARWATER, George F. Getty Company, and D. K. WEAVER, Wilshire Oil Company, was elected for a two-year term at the same time. The incumbent advisory committee elected last year and which still has one year to serve consists of R. E. ALLEN, JOHN AUGSBURGER, NEIL H. ANDERSON, CLARENCE GRAVETTE, FRANK E. REHM, W. C. WHALEY, BEN K. STROUD, FRANK CHAMPION, J. A. MOHLER, CHARLES REICHART, JULIUS DEITZEL and BRUCE BARKIS.

M. C. ISRAELSKY, president of the Houston, Tex., Geological Society, was honor guest at the first fall meeting of the Shreveport, La., Geological Society, held November 6.

F. RAY McGREW, Standard Oil Company of Louisiana, and C. N. BLACK, Magnolia Petroleum Company, have been elected to the board of directors of the General Mid-Continent Oil and Gas Association for the coming year, from the Louisiana-Arkansas division, Shreveport La.

JOE A. HALE, chief scout for the Texas Company, Oklahoma-Kansas-Kentucky division, since 1928, has been promoted to assistant to E. R. FILLEY, production division manager, Tulsa. A native of Illinois, Mr. Hale entered the service of the Texas Company in the engineering department in 1926. He previously was with Oklahoma Natural Gas Corporation, and attended Washington University at St. Louis, Mo. HOWARD JOHNSON, who has been assistant to Mr. Hale for the last two years, becomes chief scout.

T. C. PATTERSON, for the past 16 years in charge of land records and contracts for the Arkansas-Louisiana Gas Company (Cities Service) in Shreveport, La., was recently promoted to head of the land department for the same company. He succeeds HERSCHELL SCIVALLY, who has resigned to engage in the oil and natural gasoline business for himself. Mr. Patterson served with the United Fuel & Gas Company in Charleston, W. Va., for 10 years before going with Cities Service. Becoming affiliated with the company in April, 1920, he has been in charge of records and contracts until the present time. Mr. Patterson's hobby is growing roses.

W. C. SPOONER, consulting geologist in Shreveport, La., attended the meeting of A.P.I. in Chicago.

E. O. MARKHAM, geologist of the Carter Oil Company, Tulsa, is on a business trip in the Rocky Mountain states for several weeks.

J. F. WARD resigned his position with the Sun Oil Company at Mount Pleasant, Mich., effective November 1, to go into business as an independent operator.

J. E. FLETCHER and R. C. REYNOLDS, formerly with the Eureka Tool Company, have formed the Ranger Machine Company with headquarters at Ranger, Tex.

RONALD W. MACKINNON, superintendent of Imperial Oil, Ltd., operations at Fort Norman, recently visited Calgary, where he conducted a private filming of technicolor pictures of oil production in the Canadian North.

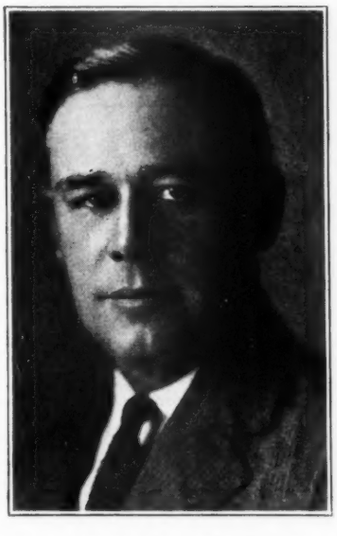
JOHN PARKER, of Gulf Oil Corporation scouting department, has been transferred from the Kansas division office to Flora, Ill. He was employed in the company's scouting office in Tulsa before being transferred to Kansas.

GEORGE A. MANAHAN, head of the Manahan Oil Company, Tulsa, and one of the principal operators in the Olympic pool of Okfuskee and Hughes counties, Oklahoma, recently went to Detroit, Mich., to purchase a motor boat for use on Lake Spavinaw next summer.

ROY E. DICKERSON, chief geologist for the foreign division of the Atlantic Refining Company, spent a few days at the headquarters of the Illinois State Geological Survey at Urbana, and in southern Illinois after attending the A.P.I. convention in Chicago. He recently made his headquarters in Philadelphia after spending 16 years in the Orient, South America, Central America and other oil-producing sections.

Once in Oil, He Liked It

When Frank E. Holsten, vice president and general manager in charge of manufacturing for the Barnsdall Refining Company, was a senior in Rutgers University he had no intention of making oil his career. He was looking expectantly toward the sugar industry. But even a man with a B.S. in chemistry must have a job, and a classmate chanced to know of one in the Tide Water Oil Company's refinery in Bayonne, N. J. So immediately upon graduation in 1905 Frank, discerning no clamor for his services in the sugar industry, began working for Tide Water. He liked it.



FRANK E. HOLSTEN

The young man was assistant to the chief chemist, T. T. Gray, inventor of the Gray process, when in 1914 he resigned to become chief chemist for the Pierce Petroleum Corporation, St. Louis, Mo. Three years later he was made superintendent of the company's Sand Springs refinery. In 1918 Mr. Holsten became process superintendent of Cosden & Company's West Tulsa plant. He was general refinery superintendent when in 1921 he assumed his present position with Barnsdall, in which he is also a director and member of the executive committee.

As might be expected of a man who played on the varsity football and baseball teams, Mr. Holsten is an enthusiastic follower of these sports, and he admits he has taken up golf. He is an active churchman. He married Miss L. S. Armstrong of Yonkers, N. Y. With their five children they reside in Tulsa.

S. F. SHAW, gas-lift specialist, has returned to Oklahoma City from a trip to his home in San Antonio, Tex.

L. S. BLANCHARD of Medicine Hat, Alberta, visited Calgary recently in connection with prospective development work in the Brazeau district.

GEORGE PARKER, formerly representative for other supply companies in the Mid-Continent district, is now with Black, Sivalls & Bryson, Inc., at Shreveport, La.

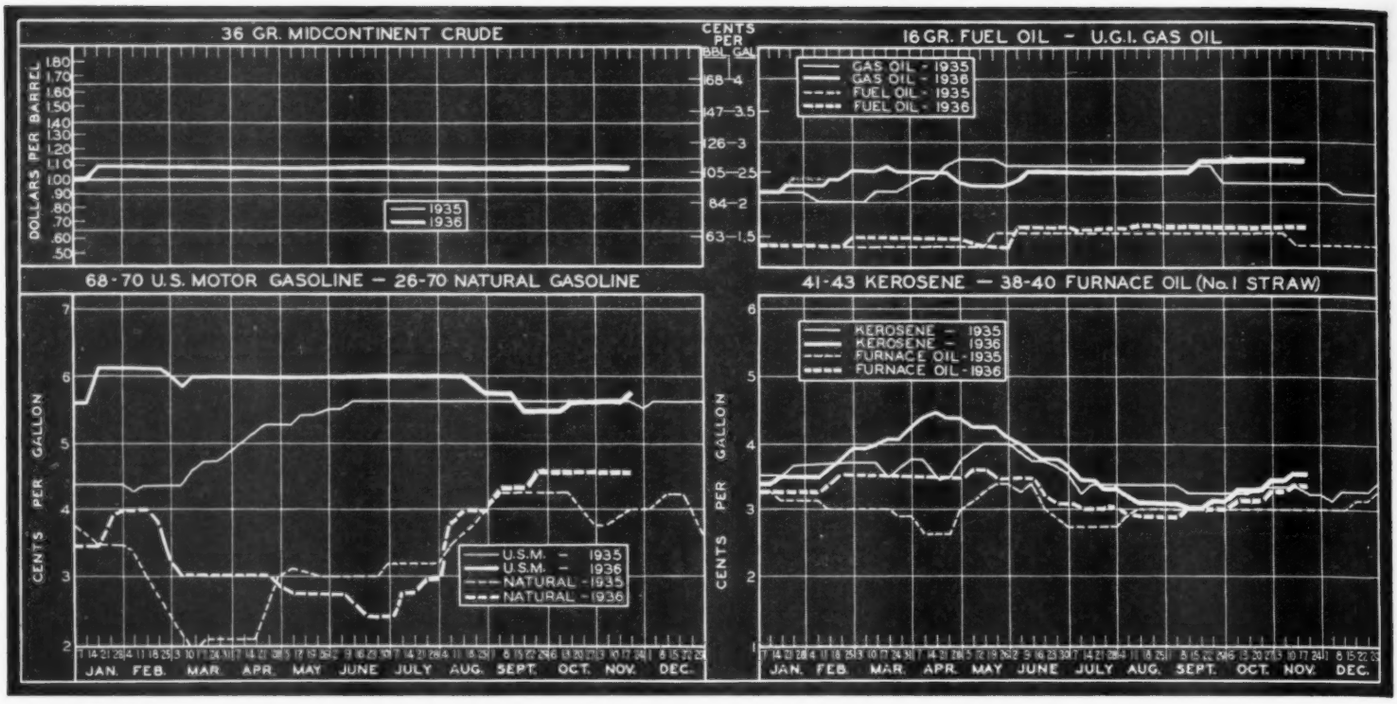
MAJOR JAMES R. LOWERY, managing director of Home Oils, Ltd., of Vancouver, British Columbia, made a business trip to Calgary recently.

"ANDY" BRUNER, independent operator of Tulsa, is temporarily residing in Laurenceville, Ill., while he is concerned with the drilling of a 1,700-foot well about 4 miles south of Laurenceville.

FRED S. WRIGHT, formerly district geologist for the California Company in West Texas, has opened offices with J. W. McMILLEN, independent producer of Ponca City, Okla., at Midland, Tex.

RAYMOND GEAR, who has been in charge of the Sterling branch office of the Kansas Corporation Commission, has resigned and now is connected with the L. E. Douglass Oil & Gas Company, discoverer of the Hauschild and Saxman pools.

R. I. CLANCEY, president of Plains Petroleum Corporation, Ltd., of Toronto, Ontario, with L. O. LUMBERS, MALCOLM STOBIE and DOUGLAS CRONE, recently toured the northern Montana and southern Alberta fields. The party made the trip between Chicago and Great Falls by airplane.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
CENTS PER BBL GAL
1935
1936
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
68-70 U.S. MOTOR GASOLINE - 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE - 38-40 FURNACE OIL (No.1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Group 3 Motor Fuel Prices Steadier as Heating Oils Continue Tight

By D. H. STORMONT

The tankcar motor fuel market, after several months of comparative inactivity, this week assumed a more business-like tone with quotations on most of the principal grades being advanced one-eighth cent in the Group 3 area. The higher quotations are attributed in great measure to the better feeling that has pervaded the whole industry for the past few weeks and because of crude price advances in several Texas districts. Although the latter had no direct effect on the situation, some marketers are inclined to regard the Texas advances as a possible forerunner of a general price increase throughout the Mid-Continent. Thus they are no longer anxious to sell material at low prices in view of the possibility that the cost of replacing present supplies may be higher,

EFFECT OF MARINE STRIKE

The threat of a marine strike crippling shipping activities on the Gulf Coast continues to be a possibility as several tankers were reported to be behind in their loading schedules. In the event of such a situation developing, the Group 3 territory would be called on to supply the East Coast markets normally receiving their supplies from the Gulf Coast. This would no doubt result in a tighter spot market throughout Group 3. However, as yet the strike has had no great effect on any of the markets as far as could be determined, with the exception of a slight tightening on the East Coast.

Large-scale gasoline buying in East Texas has removed practically all surplus material from that area. Buying for both coastal and export shipment has caused large quantities of motor fuel to be moved to the Gulf from East Texas, resulting in the removal of topheavy stocks and a strengthening in prices. Buying was not limited entirely to East Texas gasoline. Some low-octane gasoline produced from Rodessa crude was blended with the East Texas gasoline and as a result served to remove some of the low-grade material that has been exerting a depressing influence on the third-grade market.

Natural gasoline continued in good position with no apparent tendency to decline from its peak position. In fact, following the advance in gasoline prices, there was some inclination toward slightly higher quotations, especially in Texas where the market was exceedingly tight with practically no material available for spot movement. In Oklahoma there was a better balance between supply and demand.

Heating oils continued in good movement at the slightly higher prices established last week with no change in the situation. Some refiners reported they were sold out in the higher grades and were very much in the market for material. One refiner stated that his present contracts were sufficient to care for all the lower grades of heating oils that he could supply and that he was behind in shipments. Upon shopping around he was unable to find any supplies and has discontinued posting quotations on the lower grades.

FURNACE OILS IN HEAVY DEMAND

The heavy demand for furnace oils is again causing refiners to wonder just how they will be able to care for the quantities of gasoline that must necessarily be manufactured along with the heating oils. Crude runs to stills have remained at a high level all through the fall months to care for the heating-oil demand and probably will be in the neighborhood of the 3,000,000-bbl. mark at the end of the year. Thus despite the fact that most refiners have lowered their gasoline cuts to a minimum, the great increase in furnace oil demand is causing runs to be held at high levels, whereas several years ago they were decreased after the season of heavy gasoline consumption.

Neutrals and bright stocks this week regained some of the firmness lost during the past few weeks when a wave of price slashing and underselling occurred. Kerosene and especially the heavy burning oils were in good demand, with the latter being taken readily by commercial consumers. U.G.I. gas oil was unchanged and generally firm.

Refined Oil Market Barometer

Motor fuel, passing through its annual transition from high to low consumption, is somewhat steadier in the Middle West and holding its own in other areas as November consumption remains good. Light fuels in active demand, with supplies of some grades decidedly limited. Natural gasoline remains vigorous. Neutrals regaining strength in the Mid-Continent.

MID-CONTINENT. Tankcar gasoline market improved, prices up. Naturals firm.

EAST COAST. Motor fuel market firmer. Light fuels gathering strength.

GULF COAST. Burning oils scarce. Gasoline improving.

PENNSYLVANIA. Gasoline remains soft. Lubricants strong. Kerosene and fuel oils easier.

CALIFORNIA. General market inactive with gasoline soft.

CHICAGO. Tankcar gasoline firmer. Furnace oils strong.

Early Price Advance in Heating Oils Is Expected on the Eastern Coast

By H. STANLEY NORMAN

NEW YORK, Nov. 17.—Heavy fuels, kerosene and lighter furnace oils are growing scarcer along the eastern seaboard, leading marketers to predict an early price advance which may affect the entire heating structure. Limited stocks, continuous temperatures requiring heat, greater demand by industrial customers and handicaps on tanker movement by striking seamen are factors contributing to scarcity of fuel oils and the prediction that higher prices are near.

The partial blockade of sea traffic has also had its influence on the gasoline market with exception of the low-octane material originating in the Pennsylvania district. There is very little gasoline available in seaboard territory below 6½ cents for 65-octane material in tankcar lots. Even those in position to supply and normally inclined to shade the general market are holding stocks for higher figures in view of uncertainties surrounding future tanker delivery.

General business recovery and the greater demand for virtually all classes of manufactured products are responsible for increased sales of heavy fuel oils to industrial consumers. However, the expansion of industrial burner sales during the past spring and summer is also being felt in the call for heavy fuels.

Kerosene is reported especially strong both in Atlantic waters and along the Gulf Coast of Texas and Louisiana. Few refiners are in position to supply full tanker load for immediate delivery to open-market purchasers. The demand for kerosene is particularly strong from the New England and up-state New York sections, but is gradually spreading to other parts of New York, Pennsylvania, New Jersey and neighboring states.

The advances, ranging from a quarter to five-eighths of a cent per gallon on No. 1 range and heating oils posted the week before by Standard Oil Co. of New Jersey and met by other leading marketers, seemed well established and thoroughly supported by continued brisk demand throughout the territory. At the end of last week one or two quarters reported a little shading in the No. 2 burning oil, but it was thought generally that a natural and expected reaction had occurred, since this material was one of the strongest links in the fuel market for nearly a month. Marketers expressed confidence that the material in weak hands will be speedily absorbed by the demand for No. 2 fuel and that the present quotations will not only hold but probably will be pushed into higher ground as the burning season advances.

Although the strike of "rank and file" seamen along the Atlantic and Gulf Coast seaboards is only partially complete and seems to be fading, the disruption of full normal seasonal movement has exerted its influence on the petroleum products market in New York territory. There has been sufficient delay in movement of cargoes from Gulf Coast points to the northeast with the added potential factor of uncertainty over which way the strike would turn to firm the market in nearly all directions. The influence was partially noticeable in the heavy fuel oil list, but kerosene, gasoline, cracking stock and most of the lighter fuels also felt the pressure of restricted delivery.

The tankcar and tank-wagon call for gasoline is maintaining its advantage over 1935 conditions. Although temperatures have dipped below freezing in the far northeastern part of this area, the mean standing of the thermometer has been moderate. Rains and cloudy weather for five out of the past six week-ends in this district have had only a moderate detrimental influence on motoring.

Introduction of new car models this week in the National Automobile Show in New York probably will stimulate the call for gasoline as last year. Hundreds of new car buyers will be on the highways testing their vehicles under actual driving conditions or taking trips delayed for a later model automobile.

Retail gasoline prices were unchanged in this territory. The low-pressure area in Brooklyn is growing smaller and less bothersome. Indications are that the Brooklyn "war" will be completely eliminated within two weeks unless fresh developments arise. The Philadelphia market was still a little unsettled, as were conditions in New England points, but no new elements were introduced to indicate further declines.

Original announcement of a change in the commercial consumer schedule in Standard Oil Co. of Louisiana territory and a few states separating it from the Standard of New Jersey region was withdrawn and corrected last week.

In the corrected policy statement, contract commercial consumers in New Jersey, Maryland, District of Columbia and a small part of Virginia and West Virginia are to be billed under the new schedule. The new rates are a half cent over the consumer tankcar price for accounts taking deliveries of 500 gallons or more at one time by hose connections; three-quarters of a cent above the consumer tankcar price for accounts accepting deliveries of less than 500 gallons and a cent over the consumer tankcar quotation for accounts taking delivery by means other than hose connection. In North Carolina, South Caroline, the greater portions of Virginia and West Virginia, the old commercial consumer schedule of February 11, 1935, is still in existence, which is as follows:

Up to 35,999 gals. per year.....	2.5c over tankcar price
36,000 to 119,999 gals. per year..	2.0c over tankcar price
120,000 to 239,999 gals. per year..	1.5c over tankcar price
240,000 to 479,999 gals. per year..	1.0c over tankcar price
Over 480,000 gals. per year.....	0.5c over tankcar price

The same rate applies in Tennessee.

In Louisiana (effective August 16, 1935) and in Arkansas (effective January 27, 1936) the following quantities and discount rates apply:

3,001 to 10,000 gals. per month.....	0.5c under tankcar price
10,001 to 20,000 gals. per month.....	1.0c under tankcar price
20,001 to 40,000 gals. per month.....	1.5c under tankcar price
Over 40,000 gals. per month.....	2.0c under tankcar price

Gasoline of less than 65 octane rating in the Pennsylvania refining district appeared bending to a slight degree to brisk competitive selling. Stocks were not thought particularly burdensome and little of the material can be classified as "distress." However, prices were being shaded by a few tank car sellers to 5.5 cents per gallon. In contrast to the low-octane tendency, quality gasoline prices are being well maintained with demand supporting the market in satisfactory manner.

Scarcity of neutral oils in the Pennsylvania district is growing more acute from week to week. Bright stock orders are also running ahead of production. The quotations for both neutral and bright stock are unchanged at the prices raised slightly in the past two weeks.

White scale wax is unchanged with a fair volume of material moving against contracts. Spot business in this material can be done in small quantities for 2.40 cents per pound, but the general market is nearer 2.45 cents.

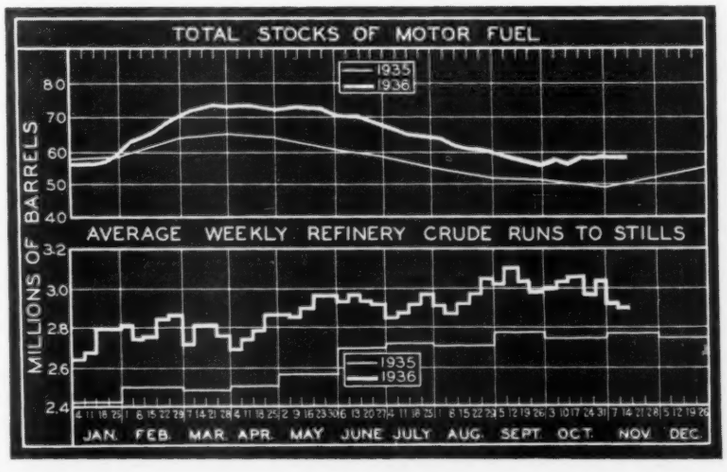
No additional cargo sales for export business were reported last week on the Gulf Coast. The last cargo sold was a full cargo of 64-66, 375-endpoint gasoline at 5.5 cents f.o.b. Gulf for December loading.

A. P. I. Weekly Refinery Statistics

Week Ending November 14, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	508,000	14,413,000	12,871,000
Appalachian	94.8	97,000	2,108,000	653,000
Indiana, Illinois, Kentucky	96.2	394,000	8,610,000	6,401,000
Oklahoma, Kansas, Missouri	84.8	276,000	5,703,000	3,449,000
Inland Texas	48.5	108,000	1,542,000	1,743,000
Texas Gulf	97.0	603,000	7,179,000	8,477,000
Louisiana Gulf	96.4	130,000	1,368,000	2,446,000
North Louisiana and Arkansas	90.0	58,000	336,000	407,000
Rocky Mountains	61.9	50,000	843,000	759,000
California	92.6	444,000	11,889,000	73,360,000
Total reported	89.9	2,668,000	53,991,000	110,566,000
Estimated unreported	.....	232,000	3,593,000	2,275,000
*Estimated total	.....	2,900,000	57,584,000	112,841,000
*Estimated total previous week	.....	2,920,000	57,309,000	112,924,000
†November 30, 1935	.....	2,772,000	52,046,000	108,847,000

*Bureau of Mines basis, currently estimated. †Monthly report, U. S. Bureau of Mines.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of November 17, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.4	13.4	4.0	9.2
Decatur	15.4	13.9	4.0	9.2
Joliet	14.5	13.9	4.0	9.2
Peoria	15.4	13.9	4.0	9.2
Quincy	15.2	13.7	4.0	9.0
Davenport, Ia.	15.4	13.9	4.0	9.2
Des Moines	15.2	13.7	4.0	9.0
Mason City	15.6	14.1	4.0	9.4
Sioux City	15.4	13.9	4.0	9.2
Duluth, Minn.	16.2	14.7	4.0	10.0
Mankato	15.8	14.3	4.0	9.6
Twin Cities	15.8	14.3	4.0	9.6
La Crosse, Wis.	16.8	15.3	5.0	9.6
Green Bay	17.1	15.6	5.0	9.9
Milwaukee	16.7	15.2	5.0	9.5
Detroit, Mich.	15.0	13.5	4.0	8.8
Grand Rapids	15.4	13.9	4.0	9.3
Saginaw	15.6	14.1	4.0	10.1
Evansville, Ind.	16.9	15.4	5.0	†9.7
Indianapolis	17.1	15.6	5.0	†9.0
South Bend	17.3	15.8	5.0	†9.0
Fargo, N. Dak.	16.8	15.3	4.0	10.6
Minot	18.0	16.5	4.0	11.8
Huron, S. Dak.	17.3	15.8	5.0	10.1
Kans. City, Mo.*	14.8	13.3	4.0	8.0
St. Louis*	15.1	13.6	4.0	8.9
St. Joseph*	14.8	13.3	4.0	8.6
Wichita, Kans.	14.3	11.5	4.0	8.0

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not includes 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month, off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective October 5, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.75 cents; 100-119 gallons, 7.75 cents; 150 gallons and over, 7.25 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.75 cents; 150 gallons and over, 6.75 cents. Stanolex furnace oil, 1-149 gallons, 7.75 cents; 150 gallons and over, 6.75 cents. Stanolex A, 1-399 gallons, 6 cents; 400 gallons and over, 5 cents. Stanolex B, 1-799 gallons, 5.5 cents; 800 gallons and over, 4.5 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Atl'tic City, N.J.	12.5	....	4.0	9.0
Newark	12.5	....	4.0	7.5
Annapolis, Md.	14.6	....	5.0	10.0
Baltimore	14.0	....	5.0	8.0
Cumberland	16.6	....	6.0	10.0
Wash'g'n, D.C.	12.0	15.5	3.0	9.0
Danville, Va.	17.2	20.7	6.0	12.9
Norfolk	16.0	19.5	6.0	11.3
Petersburg	16.3	19.8	6.0	11.7
Richmond	16.3	19.8	6.0	11.7
Roanoke	17.5	21.0	6.0	12.9
Charles'n, W. Vt.	15.8	....	5.0	12.6
Parkersburg	15.1	....	5.0	11.2
Wheeling	15.0	....	5.0	12.2
Charlotte, N. C.	18.4	....	7.0	12.6
Hickory	18.9	....	7.0	13.0
Mt. Airy	18.7	....	7.0	12.8
Raleigh	18.0	....	7.0	12.1
Salisbury	18.5	....	7.0	12.7
Charleston, S. C.	17.0	20.5	7.0	11.1
Columbia	18.0	21.5	7.0	12.1
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to commercial consumers, effective Nov. 2, 1936: On deliveries of 500 gallons or more by hose connection, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent; not taking deliveries by hose connection, plus 1 cent. Above schedule does not apply to North and South Carolina, and the greater portions of Virginia and West Virginia where the following is in effect: Up to 35,999 gallons per year, 2.5 cents over tankcar price; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,999 gallons, 1.0 cent; over 480,000 gallons, .5 cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.0
Augusta	19.5	21.0	7.0	*12.5
Macon	20.0	22.0	7.0	*14.0
Savannah	18.5	20.5	7.0	*12.5
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	20.0	21.0	9.0	11.0
Montgomery	20.5	21.0	9.0	14.0
Jackson, Miss.	20.0	22.0	7.0	*12.5
Vicksburg	19.5	....	7.0	12.5
Jacksonville, Fla.	18.0	20.0	8.0	11.5
Miami	19.5	21.5	8.0	12.5
Pensacola	21.5	23.5	9.0	10.5
Tampa	18.5	20.5	8.0	11.5
Lexington, Ky.	18.0	20.0	6.0	11.0
Covington	17.5	19.5	6.0	10.5
Louisville	18.0	20.0	6.0	10.0
Paducah	16.5	....	6.0	8.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Grand Junction	21.5	23.5	5.0	15.0
Pueblo	19.0	21.0	5.0	10.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	21.0	23.0	6.0	14.5
Billings	22.5	24.5	6.0	14.5
Helena	22.5	24.5	6.0	14.5
Great Falls	22.5	24.5	6.0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	19.0	21.0	*6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price 4 cents except in Montana where a discount of 2 cents off tank-wagon price only is allowed; divided dealer accounts, 3½ cents.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	20.5	21.5	6.0	‡16.0
Reno, Nev.	19.5	20.5	6.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20.5	6.0	13.5
Spokane	22.5	23.5	6.0	16.5

Discounts to dealers: on gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

‡Includes 5-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Post. deal.	Gasoline Serv. sta.	Inc tax	Kero. tank-wag
Albany, N. Y.	12.7	....	4.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	12.7	....	4.0	7.25
Staten Island	13.0	....	4.0	7.25
Qu'ns & Br'klyn	12.7	....	4.0	7.25
Buffalo	13.5	....	4.0	8.25
Rochester	13.5	....	4.0	8.25
Syracuse	13.5	....	4.0	8.75
Boston, Mass.	12.5	....	4.0	7.50
Portland, Me.	14.5	....	5.0	7.75
Manch'ter, N. H.	15.0	....	5.0	8.00
Burlington, Vt.	14.7	....	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	16.0	16.0	5.0	9.5
Pittsburgh	17.5	19.5	5.0	9.0
Allentown	16.75	....	5.0	9.5
Erie	17.5	18.5	5.0	8.0
Scranton	16.75	....	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	....	5.0	10.0
Wilmington	16.0	....	5.0	9.0
Springf'd, Mass.	12.5	....	4.0	7.5
Worcester	13.0	....	4.0	7.75
Hartford, Conn.	12.4	....	4.0	7.0
New Haven	12.3	....	4.0	7.5
Providence, R. I.	11.0	....	3.0	7.0

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 15t gallon lots if covered by contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag
N. Orleans, La.	19.5	23.0	*10.0	†11.0
Baton Rouge	17.5	21.0	8.0	11.5
Alexandria	18.0	....	8.0	9.5
Lafayette	18.5	....	8.0	12.5
Lake Charles	18.5	....	8.0	10.0
Shreveport	17.0	....	8.0	10.0
Knoxville, Tenn.	20.5	....	8.0	14.0
Memphis	18.5	22.0	8.0	9.5
Chattanooga	20.0	....	8.0	11.5
Nashville	19.5	....	8.0	10.0
Bristol	19.25	....	8.0	14.5

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Price basis to commercial consumers: Louisiana, effective Aug. 15, 1935. Contract consumers 2.5 cents above tankcar price less the following discounts on a gallonage basis; 3,001 to 10,000 gallons per month, .5 cent; 10,001 to 20,000, 1.0 cent; 20,001 to 40,000 gallons, 1.5 cents; over 40,000 gallons per month, 2.0 cents. In Tennessee, effective Feb. 11, 1935, commercial consumer at the tankcar price plus the following: Up to 35,999 gallons per year, 2.5 cents; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,000 gallons, 1.0 cent; over 480,000 gallons, .5 cent over tankcar.

Louisiana kerosene prices include 1-cent state tax.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Omaha	17.8	19.8	6.0	9.5
McCook	18.5	20.5	6.0	10.2
Norfolk	18.2	20.2	6.0	9.9
North Platte	18.6	20.9	6.0	10.3
Scotts Bluff	19.3	21.3	6.0	11.0

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by standard commercial consumers contract effective January 1, 1935.

Southwestern District

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Dallas, Tex.	15.0	17.0	5.0	7.5
Fort Worth	15.0	17.0	5.0	8.5
Houston	16.0	18.0	5.0	9.5
San Antonio	15.0	17.0	5.0	7.5
El Paso	17.0	19.0	5.0	8.0
Muskogee, Okla.	16.0	18.0	5.0	8.0
Okla. City	16.0	18.0	5.0	8.0
Tulsa	16.0	18.0	5.0	8.0
Ft. Smith, Ark.	16.5	18.5	5.0	8.0
Little Rock	19.0	21.0	7.5	9.5
Texarkana	16.5	18.5	5.0	8.5

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Ohio points	17.5	(†)	5.0	*13.5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service-station price.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	23.3
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	32.5	7.0	23.0
Saskatoon, Sask.	32.3	35.3	7.0	24.8
Edmonton, Alta.	30.5	33.5	7.0	24.2
Calgary, Alta	28.0	31.0	7.0	21.5
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	18.5	....	6.0	17.5
St. John, N. B.	24.0	28.0	8.0	18.5
Halifax, N. S.	24.0	28.0	8.0	18.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. of Louisiana October 20 reduced tank-wagon kerosene 1.5 cents in Alexandria; October 21 reduced tank-wagon kerosene 2 cents in New Orleans.

Rocky Mountain Runs

Estimated daily average production for the week ending November 14 was as follows:

WYOMING	
Salt Creek	16,430
Big Muddy	1,430
Byron	1,470
Frannie	1,080
Garland	3,190
Grass Creek	1,570
Hamilton dome	720
LaBarge	1,000
Lance Creek	5,790
Lost Soldier	1,040
Oregon Basin	3,800
Osage	800
Rock River	1,520
South Casper	570
Miscellaneous	3,790
Total	43,210
MONTANA	
Cat Creek	700
Cut Bank	11,250
Dry Creek	930
Kevin-Sunburst	4,720
Pondera	1,230
Miscellaneous	190
Total	19,020
COLORADO	
Fort Collins and Wellington	340
Iles dome	3,390
Moffatt	402
Miscellaneous	530
Total	4,662
NEW MEXICO	
Artesia	700
Cooper area	7,250
Eunice area	23,920
Hobbs	24,050
Jal	3,300
Lea area	1,220
Maljamar	2,310
Monument	15,020
Miscellaneous	1,230
Total	79,000
Total Rocky Mountain Region	146,892

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of November 17, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:

62 octane and below (3d gr.)	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
60-62 400 grades:		
62 octane and below (3d gr.)	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05¼

NORTH TEXAS—

U. S. Motor grades:

62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
60-62 400	.04¾	.04⅞
64-66 375	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:

62 octane and below	.05⅜	.05¾
63-67 octane	.06⅜	.06½
68-70 octane (regular)	.06⅝	.06¾

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:

62 octane and below	.05⅜	.05¾
63-67 octane	.06⅜	.06½
68-70 octane (regular)	.06⅝	.06¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:

62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
60-62 400 grades:		
62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
64-66 375	.04⅞	.05
68-70 360	.05	.05⅛

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05½
60-64.9 octane		.07
65-70 octane		.07½
64-66 375		.05¾
68-70 350		.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400	.07¾	.08½

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06⅛
Baltimore		.06¼
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.06½
Philadelphia	.06½	.06¾
Boston		.06¾
Baltimore	.06½	.06¾
Charleston, S. C.		.06¾
U. S. Motor, 65 and above:		
*New York (Bayonne)		.06¾
Philadelphia	.06¾	.07
Boston		.07
Baltimore	.06¾	.07
Charleston, S. C.		.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:

Below 60 octane	.05½	.05⅝
60-64.9 octane	.05⅞	.06
65 octane and higher	.06	.06⅛

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)		.05⅜
52-54 450 (blending)		.05⅜
54-56 450 (blending)		.05½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04½
Grade 18-55	.05⅜	.05⅝
Low vapor pressure grade:		
*14-pound v.p. (max.)	.05⅞	.06
*12-pound v.p. (max.)	.06¼	.06½

*Nominal.

NORTH TEXAS—

Grade 26-70		.04¼
Grade 18-55		.05⅛

CALIFORNIA—

75-85 375-390	.07	.07¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.04⅝	.04¾

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.03½
41-43 gr., 300-350 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝
46-48 gr., 210-230 l.b.p., 480 max. e.p.	.04½

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03½	.03⅝
42-44	.03⅝	.03¾

NORTH TEXAS—

41-43	.03½	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.03¾	.03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04	.04¼

PENNSYLVANIA (inland refineries)—

45	.04¾	.04⅞
46	.04⅞	.05
47	.05	.05⅛

CHICAGO (Based on Group 3)—

41-43	.03⅜	.03½
42-44	.03½	.03⅝

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

41-43		.04⅜

GULF COAST (domestic)—

41-43		.03⅞

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03½	.03⅝
No 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02⅝	.02¾

NORTH TEXAS—

No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅛	.03¼

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03¼
No. 3, 28-32		.03

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.03⅜	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03⅛	.03¼
No. 2 dark, 32-36	.03	.03⅛
No. 3, zero to 15, 28-32		.02⅞
No 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2	.04¼	.04⅜
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low cold test, 24-28	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test, 18-22	.72½	.80
Below 18 fuel oil, industrial	.70	.75

NORTH TEXAS—

U.G.I. gas oil	.92½	.02¾
No. 4, low cold test, 24-28	.95	1.00
No. 5, low cold test, 18-22	.72½	.80
Below 18 fuel oil, industrial	.65	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02¾
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, low cold test, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.80	.82½
No. 5, low cold test, 18-22	.75	.77½
No. 6, low cold test, 10-16	.65	.67½

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04⅝

CALIFORNIA—

Los Angeles:

30-34 gas oil, per bbl.	.95	1.15
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.05	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cago lots)	.75	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.75
San Francisco:		
27 plus diesel		1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03½	.03⅝
28-30 diesel (bunkers)		1.50
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		.95

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04½
28-30 diesel (lighterage 6¼ per bbls.)		1.65
28-30 diesel (tankcars)	.04¼	.04½
*Bunker C (to ocean-going ships in N. Y. harbor)		1.15
Industrial fuel (tankcars)		.03¾

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16½
150-160 E, 15-25		.16
100-110 D, 0-10		.15½
Steam refined:		
631 green (treated)		.13
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.24	.24½
15 pour test	.23	.23½
20 pour test	.22	.22½
25 pour test	.21	.21½
Steam refined:		
600	.13	.13½
650	.14	.14½
600 Pennsylvania flash	.15	.15½
630 flash	.17	.17½
600 Warren E filtered	.16	.16½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.08½
180-3		.09½
180-4		.09
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½
300-3½		.12½
400-3½		.13½
100-2½ paraffin oil		.05⅞
15-20 Cold Test:		
200-3		.09½
200-4		.09
250-3		.10½
250-4		.10
280-3		.11½
280-4		.11

GULF COAST—

Pale Oils:		
200-3	.06½	.07
300-3	.07	.07½
500-3½	.08	.08½
750-3½	.08½	.09
1,200-3½	.09	.09¼
2,000-4	.09¼	.09½
Red Oils:		
200-5-6	.06¼	.06⅜
300-5-6	.06¾	.07
500-5-6	.07½	.08
750	.08	.08½
1,200-5-6	.08½	.09

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3		.06
200-2½-3		.06¼
300-3½		.06½
400-3-4	.08½	.09¼
450-3-4	.09¾	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5		.06
300-5-6		.06¼
350-5-6	.07	.08
400-5-6	.08	.08¼
450-5-6	.08¼	.08⅜
500-5-6	.08½	.09
600-5-6½	.09	.09⅜
700-6½ plus	.09¾	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.21	.21½
10 pour test	.20	.20½
15 pour test	.19½	.20
25 pour test	.18½	.19
180 vis. at 70° F., 3 color:		
25 pour test	.21	.21½
200 vis. at 70° F., 3 color:		
Zero pour test	.24½	.25
10 pour test	.23½	.24
15 pour test	.23	.23½
25 pour test	.22	.22½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½	.02⅝

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0245	.0250
124-126 (a.m.p.) w.c. scale	.0250	.0255

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p. wax)		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07⅝	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¼
60-62 400		.05⅜
61-63 390	.05⅝	.05⅞
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:

53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.03⅝
41-43 water white		.03¾
44 water white		.04½

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.22
600 S.R. unfiltered	.20
650 S.R. unfiltered	.19¾
600 flash S.R.	.22
630 flash S.R.	.23½
Bright Stocks:	
8 color	.28
6½ plus color in dilution	.27

NEUTRAL OIL

200-3 color	.27½
150-3 color	.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
136-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Talco (Nov. 1, 1936)	.65
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gulf Oil Corp. Talco by Humble Oil & Refining Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.18
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.87
Elk Basin, Wyo., light *†	1.18
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (Nov. 4, 1936)	.70
Hogback, N. Mex.*	1.21
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo. (Nov. 1, 1936)†..1.08¼	
Artesia, N. Mex. (Jan. 9, 1936)‡	.80
Maljamar, N. Mex. (Jan. 9, 1936)‡	.80
Fort Collins and Wellington, Colo. (Jan. 9, 1936)‡	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)	1.15
Cat Creek, Mont.	1.28
Cut Bank, Mont.	1.35

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 9, 1936)

Saxet (Nov. 1, 1936)	.95
Mirando (Nov. 1, 1936)	.90
Pettus	1.25
Taft (Nov. 1, 1936)	.95
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85
Flour Bluff (Nov. 1, 1936). See gravity table	

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex. (Nov. 1, 1936)	.95
Refugio, Tex., heavy (Nov. 1, 1936)	.95
Tomball, Tex.	1.30
Lafitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
O'Connor (Nov. 1, 1936)	.95
McFaddin (Nov. 1, 1936)	.95
Satsuma (Nov. 1, 1936)	1.15
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Plymouth (Nov. 1, 1936)	
...See gravity table for Gulf Coast pools	
Welsh, La.	.96

Middle Western States

OHIO OIL CO.

Lima (Sept. 22, 1936)	$1.15
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)*	1.23
Midland, Mich. (Sept. 16, 1936)*	1.32
Midland, Mich. (Sept. 28, 1936)†	1.37
West Branch, Mich. (Sept. 16, 1936)	1.16
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Nov. 1, 1936)	1.28

*Posted by Simrall Corp. and Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. †Old Dutch Refining Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tulios and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita counties, Arkansas.

Eastern States

TIDE WATER PIPE LINE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.32

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A. Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.42
Group B. Includes Tidioute district.	2.41
Group C. Includes Turkey and Tidioute districts.	2.40
Group D. Includes Bear Creek and Porkey districts.	2.39
Group E. Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.36

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clean naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$.895

*F.o.b. ship, based on September transactions and exclusive of production and export taxes and bar dues.

William Harvey Emmons, author of Geology of Petroleum, returned to his office at the University of Minnesota in Minneapolis on November 8 after spending several days on a field trip in Ontario, Canada.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Flour Bluff, Turtle Bay Anahuac Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier (La Habra) E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.74	.71	$.70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.92	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.92	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.92	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ended Nov. 14 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	2,700	106½	100½	100½	Amerada Corp.	788,675	N.P.	50cQ	10-31-36	$2.00	80	48½	55⅝	39
35⅛	26⅝	4,700	32½	30⅝	31	Atlantic Refining	2,664,904	$25	50cQ¶	12-15-36	1.00	28	20½	35¼	21⅛
20⅝	14⅛	56,000	20⅝	19¼	19⅝	Barnsdall Corp.	2,131,090	$5	20cQ	11-2-36	‡.20	14¾	5⅞	10	5⅞
23⅜	14	69,500	18⅝	17⅛	17⅜	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.20	15¾	3⅜	19¼	6⅝
15¼	11½	41,100	14⅜	13¼	13⅜	Consolidated Oil Corp.	13,983,287	N.P.	40cQ¶	11-16-36	.25	12¼	6½	14¼	7⅛
39	28⅛	23,700	38⅞	36	36⅛	Continental Oil of Delaware	4,682,671	$5	50cQ¶	10-31-36	.62½	35	15⅛	22¾	15¾
34¾	21	2,200	27	25⅛	25⅜	Barber Co.	387,149	$10	50c	12-10-36	.25	22½	11¾	23½	12
12¼	6⅜	27,300	10¼	9½	10	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
30⅞	17¼	11,400	30¼	27½	27½	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	.40	20½	9½	14¾	9⅛
26¼	16⅜	1,700	23½	21½	21⅝	Mission Corporation	1,399,345	N.P.	....	.....	....	17¾	10⅜	..	..
75½	19⅞	3,300	75½	68½	68½	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12⅛	35,400	15	13¾	13⅞	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.80	14¼	9¼	15⅞	8½
18⅞	11¾	5,000	18⅞	17½	17½	Pacific Western Oil	1,000,000	N.P.	25c	12-23-35	.25	14	6¾	9⅜	5½
4¼	1⅜	900	2⅝	2	2	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	29,600	48⅛	43⅝	44½	Phillips Petroleum	4,152,836	N.P.	$1Q¶	12-1-36	1.25	40	13¾	20¾	13⅜
18⅞	11⅞	16,100	18⅞	17⅛	18½	Plymouth Oil Co.	1,050,000	$5	25c	9-30-36	.25	13	6½	16¾	7¼
24⅞	16	40,600	20	18	18¾	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
43⅜	30½	18,500	36½	34¼	34¾	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	12-15-36	1.00	36⅞	20¾	38⅜	20¾
28	14¾	16,700	27⅜	24⅝	25⅝	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
127½	110½	1,900	127½	125	125	Shell Union Oil pfd.	400,000	$100	$1.37½	10-1-36	....	111	63⅛	89	57
6¾	3½	800	4⅛	3⅞	3⅞	Simms Petroleum	461,698	$10	$1.25 liq.	7-20-36	11.75 liq.	18¾	4¾	17⅛	7¼
37¼	19½	5,500	37	35	35¼	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17½	12½	75,500	17¼	16	16	Socony-Vacuum	31,151,075	$15	25cSpl.	12-15-36	.30	15¾	10⅝	19⅞	12½
47⅝	35	31,400	42	39¾	40	Standard Oil of California	13,014,754	N.P.	30cQ¶	12-15-36	1.00	41⅛	27¾	42⅞	26½
45¼	32¾	34,100	45¼	43¼	43⅜	Standard Oil (Indiana)	15,215,677	$25	$1.25Q¶	12-15-36	1.00	33⅜	23	32¾	23¼
30¾	25	200	30	29⅞	29⅞	Standard Oil of Kansas	200,000	$10	....	10-31-34	....	32	20	41	26
70⅛	51⅛	37,400	68⅜	64⅞	65⅛	Standard Oil of New Jersey	25,856,081	$25	$1.25SA¶	12-15-36	‖1.25	52⅝	35¾	50⅛	39¼
91	72	700	80	79	79⅝	Sun Oil	1,733,013	N.P.	25cQ**	12-15-36	$1 & 7% Stk.	77	60½	74¼	51½
50⅝	28⅞	37,400	50⅝	48½	49⅝	Texas Corp.	9,340,069	$25	25cQ†	10-1-36	1.00	30¼	16½	29⅝	19⅝
15¼	7½	16,500	13⅝	12⅛	12⅜	Texas Pacific Coal & Oil	880,703	$10	25c	8-1-36	....	9¼	3¼	6½	2½
21	14¾	24,300	21	19⅛	19⅛	Tide Water Associated	5,642,342	N.P.	15cQ	12-1-36	....	15⅞	7⅝	14⅝	8
106½	100⅝	600	105	104⅞	104⅞	Tide Water Associated pfd.	626,221	$100	$1.50Q	10-1-36	§6.50	104½	84	87	64½
28½	20¾	6,700	24¼	23¼	23¼	Union Oil of California	4,386,070	$25	25cQ	11-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	1,800	29¼	28¾	28¾	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	1,000	3½	3¼	3¼	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras. **Plus 6% stock.

New York Curb Exchange

1936 High	1936 Low	Week ended Nov. 14 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
21	13¼	7,400	20	17¾	19	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	....	14⅛	3¾	3¾	⅛
50	39¾	450	48	47	48	Buckeye Pipe Line Co.	200,000	$50	$1Q	12-15-36	$3.00	42½	30½	38	26
4⅞	1⅞	9,600	2¼	2⅛	2¼	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1⅛
124¾	105	No sales	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q	9-30-36	6.50	157	115	150	116
7⅜	3	67,400	4	3½	3½	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4⅛	1½	5,200	3	2¾	2⅞	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	⅛
34¾	19⅞	27,000	31	28¾	29½	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.20	23¾	10	14⅜	9⅝
15¼	9	2,800	15¼	14⅜	14½	Darby Petroleum	351,390	$5	25cSA	7-15-36	.50	8⅞	4	7½	4⅛
6¾	1⅞	1,000	6	5	5	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
47	38½	550	46½	44¾	46½	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	38	33¼	37	30
117	72	12,100	115	103	103½	Gulf Oil Corp.	4,538,101	$25	75c†	12-10-36	....	74¾	50¼	76¾	49¾
76½	57	8,400	72	69¼	70¼	Humble Oil & Refining (new)	8,923,935	N.P.	50c†	10-1-36	1.25	64	44	49½	33¼
24½	20	9,000	23⅝	23	23⅛	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	22½	15⅝	17⅞	12⅝
9¾	5½	600	8	7¾	8	Indiana Pipe Line	300,000	$10	40cSA†	11-14-36	.35	6⅛	3⅝	6⅞	3⅝
39⅝	32⅞	7,400	37¾	36⅝	37¼	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	11,900	13⅜	12½	12¾	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	9-15-36	.10	11⅜	4⅝	5	2⅛
15½	7⅜	4,300	14¾	14	14	Lion Oil Refining	270,000	N.P.	50c	10-15-36	....	8⅛	3½	6	3⅜
14¼	9⅞	4,500	12⅝	12	12	Lone Star Gas	5,382,723	N.P.	20cSA	8-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	6,000	5⅞	5¼	5⅞	Mountain Producers	1,682,182	$10	30cSA	7-1-36	.90	5¾	4⅛	5½	4
23	17⅝	3,100	19⅝	18⅜	18⅞	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-36	1.25	20	11¾	18⅛	13⅛
15¾	9¼	700	11½	11¼	11¼	National Transit	509.000	$12.50	40cSA	6-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	2,100	3¾	3⅜	3½	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1¾
6⅝	1⅝	2,400	3¼	2⅝	2⅝	New Mexico and Arizona	1,000,000	$1	....	.....	....	2½	1	2¾	1
6¼	4¼	600	5	5	5	New York Transit	100,000	$5	15cSA	10-15-36	.30	4⅞	3	4¾	3
9¼	4⅞	900	9¼	8½	9⅛	Northern Pipe Line	120,000	$10	35c	1-2-37	.50	8	5¼	7	4⅝
6⅝	3¼	72,600	6⅛	5¾	6⅛	Pantepec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	3,300	15⅜	14⅝	14¾	Root Petroleum Co.	336,045	$1	25c	8-1-36	....	5	1½	..	..
4¾	1⅞	800	3¼	3¼	3¼	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
41¼	32½	2,300	41¼	40½	41	South Penn Oil	1,200,000	$25	60c†	9-30-36	1.35	34½	21⅝	26½	17½
7⅞	3¼	400	4¼	4¼	4¼	Southern Pipe Line	100.000	$10	10cSA	9-1-36	.30	5	3⅞	5½	3½
60	44¾	100	49	49	49	Southwest Penna. Pipe Lines	35,000	$50	$1Q	10-1-36	5.00	56	44¼	47	41
23⅜	17⅛	8,300	21⅞	21⅛	21⅜	Standard Oil of Kentucky	2,604.790	$10	35c	9-15-36	1.25	24	18	18⅜	14⅝
14⅝	11	400	12⅜	12⅛	12⅛	Standard Oil of Nebraska	188.403	$25	....	6-20-34	....	12	7¾	16⅞	8¼
40	21¾	2,100	39	37⅞	38	Standard Oil of Ohio	753.740	$25	25c	10-15-36	....	23⅝	11½	28½	12¼
5	2⅝	6,400	3¾	3½	3½	Sunray Oil	1,610,810	$1	5c	12-21-36	....	2⅞	⅜	2	††
9¾	5⅜	2.600	6¼	5⅞	5⅞	Texon Oil & Land	336.028	N.P.	15cQ	9-30-36	.60	6⅞	5	11	4⅜
7½	4⅜	25,800	6⅝	6⅛	6⅝	Texas Gulf Producing Co.	888,088	N.P.	....	12-29-34	....	4⅝	2½	7	3⅝

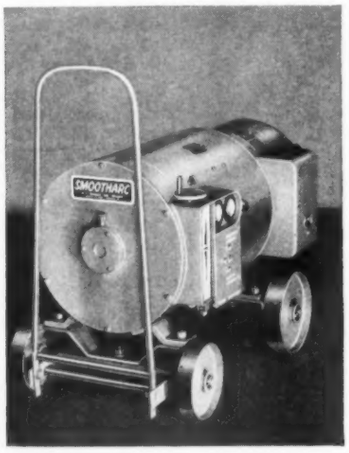
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Harnischfeger Announces New Line of Welders

The Harnischfeger Corp. of Milwaukee, Wis., announces a new line of P&H Hansen "Smootharc" welders featuring single current control, self-excitation and internal stabilization. This new line of welders is built in two styles vertically mounted in 75, 100 and 150 ampere capacities and horizontally mounted in 200, 300, 400 and 600 ampere sizes. Both models are uniformly and compactly built, then streamlined to eliminate projecting parts and to permit easy portability.



Single current control is the outstanding feature of this new line of "Smootharc" welders. It is made possible by the special patented design of shifting generator brushes. By means of a simple micrometer screw shifting device an infinite number of current settings is secured and the voltage is maintained automatically at a high value. A simple turn of one controlling dial quickly gives the desired welding current.

All "Smootharc" welders are self-excited by means of a set of auxiliary brushes placed ahead of the main brushes and connected to an auxiliary shunt winding. No extra commutator is needed.

Self stabilization is secured in "Smootharc" welders through the special use of interpole winding extended to the main pole shoes in such a manner that it serves the dual function of interpole winding and stabilizing winding.

Additional mechanical improvements listed for these new simplified "Smootharc" welders include: the generator instruments being mounted in a single control panel built into the side of the streamlined motor housing; the use of all rolled steel and arc welded construction; and all steel parts, field ring, pole shoes, etc., being annealed to give the highest possible quality magnetic field for generator fluxes.

Bulletins, Booklets and Other Literature for the Trade

Improvements which have been added to the Ideal-Ajax 14 by 14 twin-cylinder roller-bearing steam drilling engine are described in a new bulletin issued by the National Supply Co., Toledo, Ohio.

Baldwin-Southwark is the name of a newcomer among the higher-class house organs, published by Baldwin-Southwark Corp., Paschall Postoffice, Philadelphia. The first number, designated as the centenary issue, is given over to an attractively prepared history of the organization, which manufactures pumps, engines and much other equipment for the oil industry.

Bulletin L-611-B12, obtainable from the Worthington Pump & Machinery Corp., Harrison, N. J., shows a sectional view of the company's improved single horizontal three-stage compressor and gives detailed specifications.

A 12-page bulletin offered by the Yale & Towne Manufacturing Co., Philadelphia, Pa., enables its possessor to order genuine Yale parts for all Yale chain hoists made in the past 50 years. The bulletin may be obtained also from Fred Sintes, district sales manager, 980 Taft Place, New Orleans, La.

"Cracking and Reforming" is the subject of a helpful article in the current number of Heat Engineering, published by Foster Wheeler Corp., 165 Broadway, New York.

The latest edition of the Hyatt Rollergravure, presenting a pictorial review of applications in which Hyatt roller bearings are employed, contains illustrations of particular interest to the oil industry.

Rush to Represent Wheatley

Appointment of the J. D. Rush Co., 5199 District Boulevard, Los Angeles, Calif., as sales representatives is announced by Wheatley Brothers Pump and Valve Manufacturers, Tulsa. A complete line of Wheatley pumps, check-valves, and combination gate- and check-valves, together with other equipment, is now being carried in stock by the J. D. Rush Co. Associated with Mr. Rush is R. D. Gwynne, for many years purchasing agent for a major oil company in Tulsa.

ON COAST-TO-COAST TRIP

FRANK CHAMPION

Frank Champion, general sales manager for the oil-tool division of Byron Jackson Co., is on an extended business trip through the Mid-Continent and Gulf Coast fields. He plans to visit New York, returning to reach Los Angeles early in December.

Kerotest Develops New Line of Adjustable Control Chokes

The Kerotest Manufacturing Co., Pittsburgh, Pa., has developed a complete line of adjustable control chokes, especially designed to afford an economical and efficient method of flow control on any christmas-tree hook-up regardless of pressure or size. Tested to 6,000 pounds for working pressures up to 3,000 pounds per square inch, these chokes are made in two general types, tee type and cross type, the bolted-bonnet and the screwed-bonnet design. The bolted-bonnet types are designed with female inlet and outlet openings. The screwed-bonnet types include the female openings, male and female openings, and all male openings.

Cross-type chokes include one design with a restricted orifice bushing for sensitive control of production under high-pressure sand conditions and one of the full-flow type to permit flow up to the maximum of the well-tubing. These chokes are attached directly on top of the well and provided with a full opening straight down the tubing string for the passage of swab or other equipment without removing choke from the well.

The full-flow choke has an opening through the seat equal to the maximum inside diameter of external upset tubing, permitting flow of maximum production when desired. It is adjustable and can be throttled to any smaller areaway desired with the diameter of such areaway clearly shown on the indicator. Bodies and bonnets of all screwed types are made of alloy-steel, heat-treated drop forgings. Bolted-bonnet types in sizes 3-inch and smaller are also made of heavy alloy-steel drop forgings while the 4-inch and 6-inch bolted types are cast of heat-treated alloy steel.

Small Trap for Handling High Pressures Placed on Market

The No. 312 Armstrong forged steel trap, a recent addition to the line of steam traps manufactured by Armstrong Machine Works, 717 Maple Street, Three Rivers, Mich., fills the need for a small, relatively low-priced trap to take care of high-pressure drips at pressures up to 450 pounds. The trap is provided with either one-half inch or three-quarters inch screwed or flanged connections.

The No. 312 Armstrong trap uses the Armstrong inverted bucket and free floating lever operating principles. There are only two moving parts, the bucket and valve lever assembly. The complete interior machanism is made of stainless steel, the valves and seats being heat treated for maximum hardness and toughness. The body and cap are forged from S.A.E. .25 to .30 steel.

The trap weighs approximately 30 pounds and is 10¼ inches in height by 6¾ inches in diameter.

At 450 pounds operating pressure the trap has a continuous discharge capacity of approximately 2,500 pounds of hot condensate per hour.

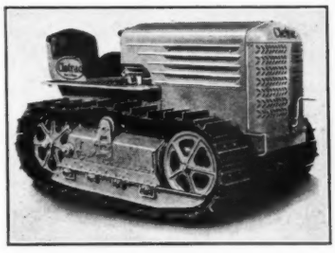
Metallic Packing Suitable for High-Speed Service

Horseshoe metallic pump-packing is a recent development designed for centrifugal pumps. It consists of a tube of tough lead alloy containing a core of flax or asbestos impregnated with oil and graphite. When compressed by the stuffing-nut or -gland this packing forms a bearing which is adjustable for wear. As it is nonporous, seepage through the packing material itself is impossible, making it desirable for oils and volatiles. It is suitable for high-speed service, the alloy being nonfrictional, and does not score the pump-shaft. It is available in five sizes, from one-eighth inch to one-half inch in diameter.

This packing was designed originally for automobile water pumps and its remarkable performance in that industry led to its adaptation to larger installations where it has been equally efficient. The Kansas City Smelting Co., 2215 Guinotte Avenue, Kansas City, Mo., is the manufacturer.

Attractiveness Combined With Power in Crawler Tractor

Giving new attractiveness to mobile power units which in the past have been built for endurance and utility rather than style, the new streamline design of the Cletrac crawler tractors eliminates sharp corners and projections. Comfort for the operator is provided in coil-spring-cushioned seat, adjustable footrests and controls that make operation easy. Exhaust and intakes are hidden from view.



Streamlined Cletracs have the same sturdy ability to endure that has been their characteristic for 20 years. Controlled differential steering, one-piece drop-forged shoe, track support and lubrication design and the frame construction are the same as before. The line includes crawler tractors from 22- to 94-drawbar horsepower, powered with internal combustion and diesel engines.

Here and There With Men Who Manufacture Equipment

The Leeds & Northrup Co., 4901 Stenton Avenue, Philadelphia, Pa., has opened a branch office in the Judd Building, 75 Pearl Street, Hartford, Conn.

Hercules Motors Corp., of Canton, Ohio, has completed a new and broader license agreement with N. V. Kromhout Motoren Fabriek of Amsterdam, Holland.

E. W. Patterson, designer of the Lacy air balance pumping unit and chief engineer of the Lacy Oil Tool Co., Los Angeles, has been conducting a survey of well-pumping problems and conditions in the Mid-Continent field. R. P. (Salty) Clark, in charge of Lacy sales for the Norvell-Wilder Supply Co., Mid-Continent distributor of the Lacy pumping unit, is accompanying Mr. Patterson.

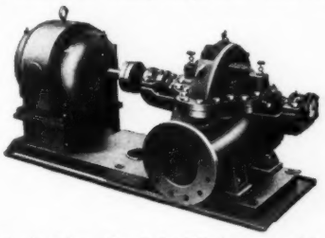
The Babcock & Wilcox Co. has appointed J. S. Allison, Jr., as Chicago district manager of its refractories sales department, with offices in the Marquette Building, 140 South Dearborn Street.

The Stearns Magnetic Manufacturing Co., Milwaukee, Wis., has opened a sales office at 369 Architects Building, Philadelphia, Pa., with James Whiting in charge, according to an announcement from R. H. Stearns, president.

Liquid of Many Kinds Handled by Cameron Coupled Pump

The line of coupled pumps offered by the Cameron Pump Division of Ingersoll-Rand Co., 11 Broadway, New York, includes capacities from 150 to 5,000 g.p.m. against heads between 20 and 250 feet. These pumps are used for handling almost all liquids, such as water, gasoline, brine, ammonia, naphtha, alcohol, benzene, soap liquids, dyes, cutting compound, chemicals, acid mine water, and many others.

Cameron ball bearings need only infrequent lubrication and require no adjustment. Wearing rings provide for restoring initial clearance with a minimum of cost and time. Deep, water-sealed stuffing boxes are easily adjusted. The Cameron split, interlocking gland facilitates repacking. The pump rotor can be removed when inspecting or cleaning the interior of the pump without disturbing bearing adjustment or exposing bearing parts to dirt or moisture. Each unit receives a thorough test in Cameron's modern hydraulic testing laboratory to insure a high standard of mechanical performance and to check its head, capacity, and power characteristics throughout the complete range of operating conditions.



Condor Compensated Belt Now Is Made in Two New Styles

Two new styles of Condor compensated belt, designated as style F and style B, have been developed by the Manhattan Rubber Manufacturing division of Raybestos-Manhattan, Inc., Passaic, N. J. Both have the patented Condor compensated principle of equalized ply stresses at the arc of contact, but are especially designed for those unusual conditions which require some slip rather than the extremely high coefficient of friction for low-tension operation present in the regular Condor compensated belt.

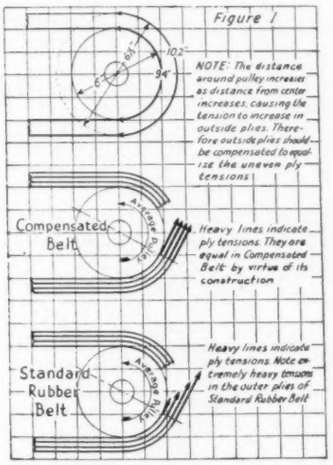


Figure 1
NOTE: The distance around pulley increases as distance from center increases, causing the tension to increase in outside plies. Therefore outside plies should be compensated to equalize the uneven ply tensions.
Compensated Belt
Heavy lines indicate ply tensions. They are equal in Compensated Belt by virtue of its construction
Standard Rubber Belt
Heavy lines indicate ply tensions. Note extremely heavy tensions in the outer plies of Standard Rubber Belt

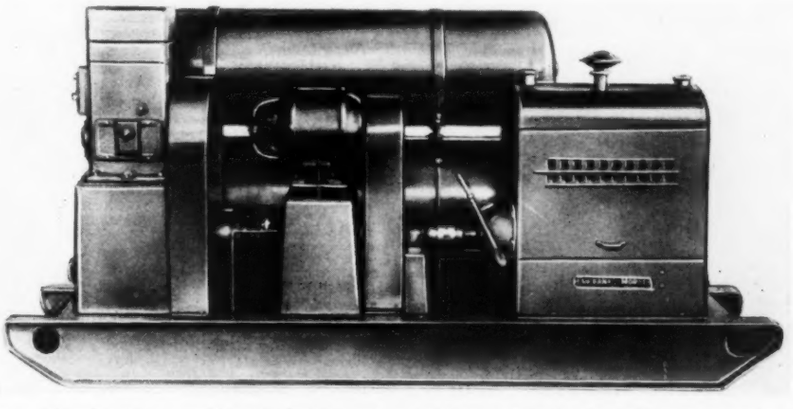
Style F has a red friction-pulley surface and is designed for use where a slight starting slip is desired. Style B has a bareback untreated duck pulley surface and is built for conditions calling for a greater slip, or where slip is essential, as in the case of winder drives. There are no differences between the construction of these belts and that of the regular Condor compensated low-tension belt except for the pulley surface.

The Condor compensated principle of equalized ply stress consists of building the belt to conform to the pulley curvature, thereby relieving the excessive stresses thrown on the outer plies and overcoming ply ruptures or separations, broken fasteners and prolonging belt life.

AUXILIARY OIL-FIELD SET IS BUILT FROM F-M UNITS

A new auxiliary generator and air-compressor set for rotary drilling-rig service in oil fields has just been built with Fairbanks-Morse units by the Emsco Derrick & Equipment Co. of Los Angeles, Calif. Power is furnished by an 11½-horsepower F-M-3 multicylinder industrial power unit. This engine is equipped with a combination butane and gasoline carburetor, with fuel-tank for gasoline under the hood and with necessary fittings for connecting the butane regulator to a fuel supply line. The power unit has safety devices for both oil pressure and water temperature, an oilbath type air-cleaner and an oil-filter. Power take-off is through a clutch.

The F-M 3-kw., 125-volt, d.c., 1,500-r.p.m., type DGZM generator is driven from a countershaft through a V-belt drive. The F-M 2-stage type H air-compressor, driven from the countershaft through a clutch by a multiple V-belt, operates at 800 r.p.m. Two 20x60-inch, 250-pound pressure, A.S.M.E. class 2 air-tanks are mounted on one side in a suitable saddle. Instrument panel, with voltmeter, ammeter and rheostat, is not shown in the illustration.



The steel frame is constructed of three 12-inch I-beams with 3-inch cross pipes at each end, and one-quarter inch steel plates. The entire frame is welded.

Canadian Fields

(Continued from Page 82)

arranging to drill a test on the west side on a 40-acre lease in LSD 7, section 29-18-2w5. Location is a half mile south and a quarter mile west of Turner Valley Royalties No. 1 producer. Directors of the company are: P. G. Swiffen, P. C. Millard, Frederick Nye, Geo. Lancaster and Wm. R. Ronn, all of Calgary. The company some time ago located a test in LSD 3, section 2-20-29w4 on the Aldersyde structure, but has done no drilling there.

Bell Refinery Deliveries

Deliveries to the Bell Refining Co. of Calgary in October totaled 16,836 bbls. compared with 30,423 bbls. in September. This included 14,875 bbls. of crude from Turner Valley Royalties No. 1. The total production of this well for the month was 22,498 bbls. compared with 24,147 bbls. in September. Production in the latter part of October was handled through the Royalite Oil Co. pipe line.

Okalta Arranges Tests

Okalta Oils, Ltd., of Calgary, headed by W. S. Herron, is completing arrangements for the drilling of eight new tests on its acreage on the west side of the South Turner Valley structure. Under the terms of the various agreements, the Okalta company will receive 10 per cent royalty on production before the government royalty is paid, with 15 per cent where production of an individual well exceeds 500 bbls. a day. The operating company in each case receives one lease on which drilling is to start within three months; with the option of securing another lease on which a second well must be started within three months of completion of No. 1.

Anglo-Canadian Development and Holding Co., Ltd., holds lease on LSD 16 and option on LSD 9, section 20-18-2w5. This section is immediately west of section 21, with both subdivisions on its eastern boundary. The same company holds lease on LSD 11 and option on LSD 13 in section 16-18-2w5, immediately south of section 21. An Eastern Canada syndicate is organizing a company to drill on LSD 12, section 16-18-2w5, with option on LSD 14. McDougall-Segur Exploration Co. of Calgary has lease on LSD 1 and option on LSD 8, section 20-18-2w5. P. S. Woodhall and associates of Calgary have lease on LSD 11 and option on LSD 12, section 20-18-2w5. Equitable Agencies, Ltd., an English concern, has lease on LSD 2 and option on LSD 3, section 20-18-2w5. Tentative arrangements have also been made with Alberta Petroleum Consolidated, Ltd., of Calgary, and William Hynes and associates of Vancouver, British Columbia, though in these two cases the acreage has not been definitely decided. The holdings to be developed are west and south of the most recent South Turner Valley extension in section 21-18-2w5, and on the west flank of the structure.

The Okalta company has reserved acreage in section 16-18-2w5 and section 20-18-2w5 and farther north in the vicinity of Dalhousie Oil Co. on which it will drill a test to be financed by its shareholders on a royalty basis. Work on most of the tests is expected to be under way by January, 1937.

To Test Weymarn Well

On the Mill Creek structure in the Pincher Creek district, just north of the international boundary, arrangements have been made for completion of Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, standing at 5,665 feet with strong showings of gas and light crude. Financing has been arranged through the sale of shares to the Anglo-Canadian Development & Holding Co. and through additional investment by the Norwegian backers of the Weymarn company. About a year ago the hole was deepened with rotary equipment, encountering a potential commercial production in horizons above the Madison lime. It will be deepened between 500 and 600 feet and production tested in all the promising horizons. It is expected the additional drilling will carry the test to the porous horizons of the Madison. Work will be started as soon as Foundation Petroleums No. 1 in South Turner Valley is completed. Operations will be under supervision of John Sherman.

In the Pouce Coupe area, northern foothills, the blazing gasser at Northwest Co. No. 1 Pouce Coupe, has been extinguished, having been shot out with dynamite. Considerable gas is still escaping.

Ontario Drilling

In the Brownsville field, Oxford County, Ontario, Aylmer Gas Co. No. 3 Peacock farm, S quarter Lot 23, Concession 12, Dereham Township, finished in the upper sand around 910 feet with initial flow estimated 4,000,000 feet a day. The largest gasser yet drilled in the Brownsville field, is south of the Aloka discovery wells in the same lot.

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Supt. Gas lift and Gaso plant desires new connection. Address Box H-513, The Oil and Gas Journal, Tulsa, Oklahoma.

Accountant with 10 yrs.' experience desires to keep small sets books. Address Box H-552, The Oil and Gas Journal, Tulsa, Oklahoma.

COLLEGE graduate desires connection with opportunity in the future. Single, age 27, reliable, ambitious and hard worker. Previous experience power work. Address Route 1, Box 90, Dallas, Texas.

Graduate veterinarian and agriculturist with experience in ranch management will be open for employment Dec. 1. If you want a man who is qualified to make your ranch pay dividends address Box H-533, The Oil and Gas Journal, Tulsa, Oklahoma.

Experienced Material and Office Man. 12 yrs. with Major Co. Age 38, married, go anywhere. Box H-536, The Oil and Gas Journal, Tulsa, Oklahoma.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

AN apparent structure similar to Rodessa containing about 20,000 acres in north east Texas has been located by modern petroleum geology. A drilling contractor able to lease at $2 to $3 per acre, drill and produce from 6200 feet is wanted, my only interest being one-sixteenth over riding royalty carried free through the lease for making the location. Proof of unquestionable integrity and financial ability required in answer. Prompt action is imperative. Address Box H-531, The Oil and Gas Journal, Tulsa, Oklahoma.

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25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

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1—100 H.P. 3-drum American electric hoist.
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2—300 Ampere Lincoln Welders, speed control, A-1 condition. Service Co., 3732 Cedar Avenue, Cleveland, Ohio.

FOR SALE: Two 240 H.P., 180 R.P.M., 3 cylinder Busch-Sulzer Diesel engines in first-class condition with one 187 K.W, 240 V, A. C. belt driven generator and direct connected exciter. These engines are now connected together in tandem but could be separated to operate as single units. Will sell either or both units. Price $12.50 per H.P. F.O.B. our plant. STANDARD-TILTON MILLING COMPANY, Dallas, Texas.

FOR SALE—6 only 25-30 Ton Martin Special 8 wheel high speed, flexible wagon, bronze bearing equipped with 36" diameter wood wheels ¾x8" steel tired, equipped with hitch for use with crawler type tractor. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE
18,000 feet 13-lb. 6" plain end line pipe, complete with Dresser couplings @ 25c per ft. f.o.b. cars Mount Vernon, Ohio. Pipe smooth and in good shape. Wright Brothers Pipe & Supply Co., Box 387, Clarksburg, West Virginia.

FOR SALE—5,000 bbl. Steel Tank—1 National Drilling Machine, both in good condition. Located at Bixby, Okla. Address Box H-511, The Oil and Gas Journal, Tulsa, Oklahoma.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa

BELTING SALE
New rubber friction belting—2" to 14"—first quality, 25% to 40% under the market.
K. C. PIPE & SUPPLY CO.
Shreveport Tulsa

FOR SALE—1 No. 2-A National all steel pulling machine. Drilled 3 shallow wells. I. T. I. O. Company, Bartlesville, Oklahoma.

50,000 feet 8" 29-lb. line, 30,000 8¼" 28-lb. A-1 pipe. Robinson Pipe Line Contracting Co., Robinson, Illinois.

FOR SALE: Standard Engineering 8" pipe cutter and threader with complete set of dies and taps. Will sacrifice. Highway Trailer Company, Edgerton, Wisconsin.

Leases—Production

New southwest Texas oil leases in small tracts for brokers and dealers. H. H. White, Box 674, San Antonio, Texas.

ROYALTY, leases, 4,000 acres Brooks County, Texas, west of Alta Verde field, active territory. D. N. Clark, Albia, Iowa.

NEW MEXICO LEASES on the Vegas Dome at Las Vegas, N. M. A deep test on a fully geologized structure. It's a real well testing for the big deep production. It offers a real opportunity to the lease buyer. Prices on structural acreage are reasonable. Now is the time to connect. Write or wire,
S. W. Pressey, Pueblo, Colorado.

SOUTH Texas lands in fee $4 to $8. Intensely active drilling area. A safe, sound investment plus oil possibilities. M. E. Bogle, 608 Insurance Building, San Antonio, Texas.

Leases—Production

ATTENTION MAJOR COMPANIES and INDEPENDENT OPERATORS

Exclusive Brokers in oil and gas leases in **southern Illinois Basin** and in **southwestern Indiana**, catering to assembling blocks and checker board plays.

Also FOR SALE blocks and checker board acreage on known structures in southern Illinois Basin. References furnished.

COTTON and USREY
Brokers Oil and Gas Leases
MAIN OFFICE—Sullivan, Indiana BRANCH—Olney, Illinois

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

WANTED — Drilling anywhere in Eastern Kansas or Oklahoma. Forty years experience. Will take interests for partial pay. Let me figure your job. New equipment. H. H. Sherman, 824 North St., Iola, Kansas.

CORE DRILLING
Any nature — Anywhere
Latest equipment
Will take interest deal with reliable Independent Operator.
PAUL R. KING
Box 341, Hutchinson, Kans.

FOR SALE oil and gas leases in Kentucky shallow oil field. Leases furnished for drilling contracts. W. P. Harley, Bowling Green, Kentucky.

Capital to further develop 10,000 acres, oil & gas in middle Tenn. D. H. Reavis, 2014 Beech Ave., Nashville, Tennessee.

BUY—SELL
Proven Leases in Louisiana-Arkansas
WILLIAM MONROE LAYTON
40 Wall St., Suite 1437, New York City.
323 Commercial National Bank Bldg., Shreveport, La.

FOR SALE Oklahoma Leases. 500 acres Nowata Dist., 80 A. Cleveland County. Address 405 Philcade Building, Tulsa, Oklahoma.

LANDS Leases, Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

SHELBY County at last has a producing well. Several tests now going down. This County has been worked out and approved by best geologists. Have 1,000 acres on structure for drilling contract. Small bonus. C. A. Parker, Box 451, Center, Texas.

IN OR around Pawnee County and the central mid-west of Kansas. Single leases or drilling acreage. Rental 50c to $1 per acre. Advise your needs. Address Box H-501, The Oil and Gas Journal, Tulsa, Oklahoma.

Shallow Oil-Gas eastern Kansas 700 to 900 feet; six producing zones; proven area. Will furnish lease and drill well, $1,500. Full particulars to brokers, others. Mr. Budd, Osawatomie, Kansas.

½, ¼, or ⅛ int. 1000 a. and well to be drilled 1800′ SW Ind. Perfect geo. apr. loc. close to prod. F. M. Pierson, Box 748, Terre Haute, Indiana.

FOR quick profits, investigate cheap leases in Red River and other counties. E. M. Adams, Clarksville, Texas.

FOR SALE — 3 eighties acre leases northern Barton County, Kansas. One-half mile from drilling well in trend close to Russell County production. Address Box H-535, The Oil and Gas Journal, Tulsa, Oklahoma.

10,000 acres fairly solidly blocked MISSISSIPPI on real structure and 3500 ft. well for $12,000. Real operators only. 825 Tennessee Hotel, Memphis, Tenn.

WILL block 10,000 acres or more ARKANSAS or MISSISSIPPI. 5c acre for parties able to drill. 35 yrs. experience oil business, capable all phases. Surveys, plats, maps, drilling and formations watched. Reliable, references. 3,500 ft. wells test 4 likely oil sands approx. $12,000. Letters invited from actual operators aware possibilities Upper Mississippi Embayment, Geologist. Box 303, Memphis, Tenn.

OIL MEN AND DRILLERS ATTENTION
Best bet in Port Barrie oil field, 226 acres, mile and half from flowing well, Township 5, Range 5, St. Landry Parish, Louisiana. Want drilling contract? Write
FRED T. MILLER
Route 1, Box 59, Gulfport, Miss.

For lease. 1080 acres containing the center of the axis of Cimarron Valley Anticline, T. 31 N., R. 36 E., Union County, New Mexico, as per New Mexico School of Mines 1936 revised Oil and Gas Map. Owner, 115 Fremont Place, Los Angeles, California.

GEOPHYSICAL (oil finding) Surveys, $50 cash. Geological Scientific Service Co., 957 E. Davis, Ft. Worth, Tex.

Ranches and Farm Lands

CHEAP TEXAS RANCHES — OIL CHANCES 35,000 acres Panhandle Ranch $5. 640-a. Fisher Co. stock farm $8. 2500-a. Cochran Co. $8. Shanks Land Office, Abilene, Texas.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*	
1 Inch	*13 times*	*4.50*	*per inch*
1 Inch	*26 times*	*4.00*	*per inch*
1 Inch	*52 times*	*3.50*	*per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*
7 Lines	*$2.45*	*$4.20*	*$5.95*	*$7.70*
8 Lines	*2.80*	*4.80*	*6.80*	*8.80*
9 Lines	*3.15*	*5.40*	*7.65*	*9.90*
10 Lines	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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November

20—Tulsa, annual meeting, Kansas-Oklahoma division, Mid-Continent Oil and Gas Association.

20-21—Houston, Tex., Society of Petroleum Geophysicists mid-year meeting.

November-December

30-Dec. 1—Oklahoma City, Okla., Independent Petroleum Association, Biltmore, annual meeting.

December

1—Oklahoma City, Okla., Interstate Oil Compact Commission, State Capitol, 10 a.m.

4—Houston, Tex., annual meeting, Texas division, Mid-Continent Oil and Gas Association.

5-13—Detroit, Mich., First International Consumers Petroleum Exposition.

6-11—New York, National Exposition of Chemical Industries, Grand Central Palace.

15—Tulsa, annual meeting directors, Mid-Continent Oil and Gas Association.

February, 1937

8-10—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

23-25—Milwaukee, Annual Convention, Wisconsin Petroleum Association.

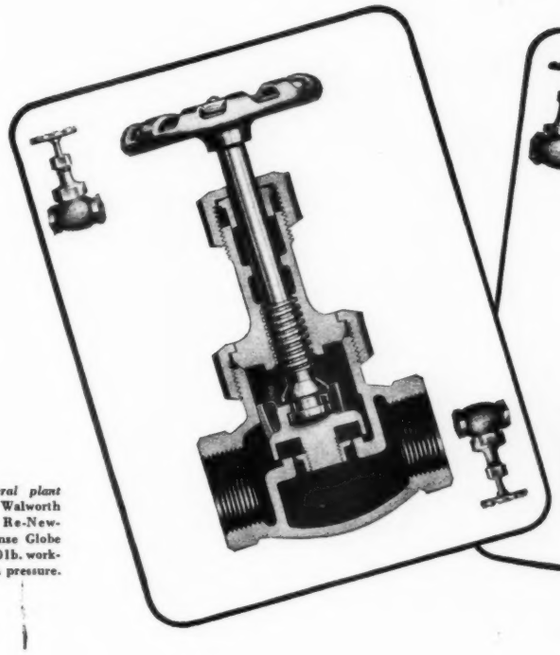
March

17-19—Los Angeles, Calif., A.A.P.G. annual meeting.

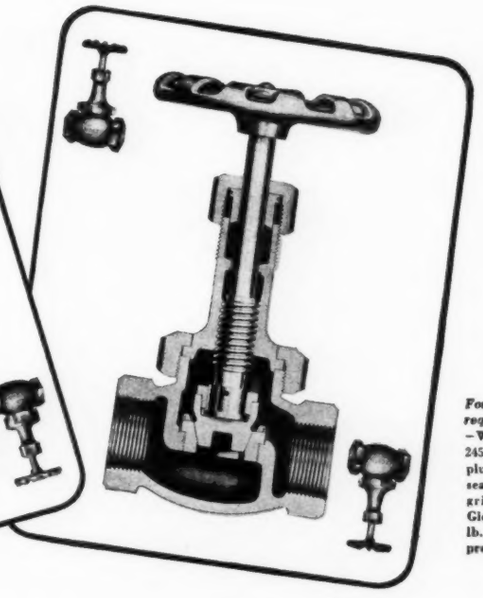
April

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

A Pair of Aces FOR PLANT ECONOMY



For general plant service – Walworth Fig. 95 Re-New-Disc Bronze Globe Valve, 150 lb. working steam pressure.



For plant service requiring throttling – Walworth Fig. 245-P nickel alloy plug type disc and seat – renewable, regrinding Bronze Globe Valve, 200 lb. working steam pressure.

"The correct valve for each specific service" has been Walworth's policy for 94 years. Here is a typical example of this policy – a pair of valves for ace-high, dependable plant service.

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Where throttling is necessary, Walworth recommends Fig. 245-P. The Plug Type Seat and Disc of Sigmalloy 222, a hard nickel copper alloy, withstands terrific punishment and lasts longer.

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60 EAST 42nd STREET, NEW YORK

DISTRIBUTORS IN PRINCIPAL CITIES THROUGHOUT THE WORLD

The Oil and Gas Journal, issued weekly by The Petroleum Publishing Company, 114-116 West Second Street, Tulsa, Oklahoma. Subscription prices: Domestic, $6.00 a year; foreign, $7.00 a year. Entered as second-class mail matter December 15, 1911, at the post office at Tulsa, Oklahoma, under the Act of March 3, 1879.

PARKERSBURG Long Stroke PUMPING UNITS

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"You mean these 3 BEARING METALS will fill 95% of all our requirements?"

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3. EAGLE DURABLE A No. 4 bearing metal for all less severe bearing requirements.

Consult your Eagle Bearing Metal Chart for dependable information on which metal to use in each piece of equipment. If you do not have this Eagle Chart, write today for free copy.

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After an expert analysis of the operation of your plant, Eagle-Picher will recommend the correct metal to use for each machine. This service is available without charge. Use it — save costly shut-downs, increase your economy of production.

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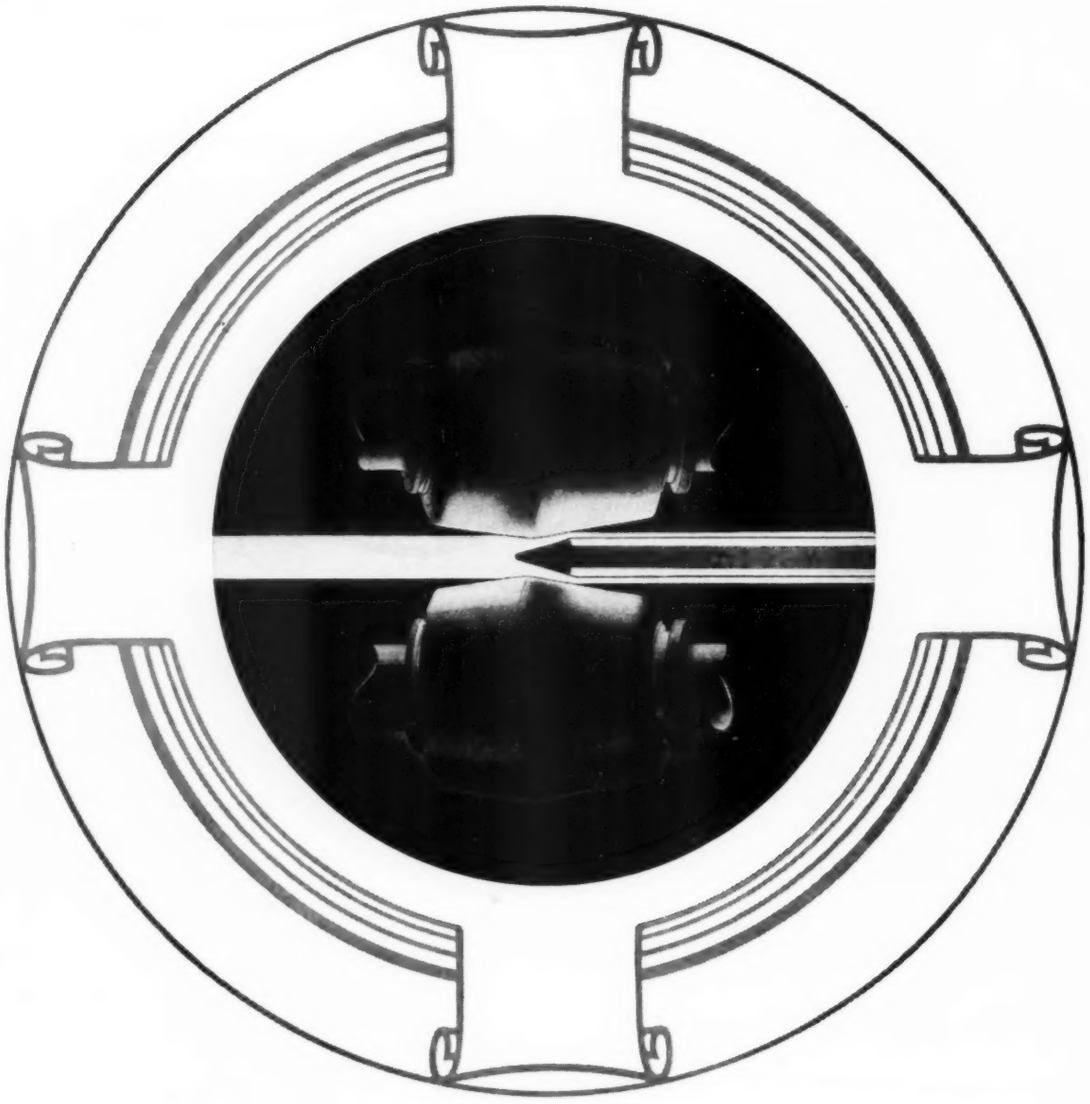
THE EAGLE-PICHER [illegible] COMPANY • CHICAGO • JOPLIN • CINCINNATI



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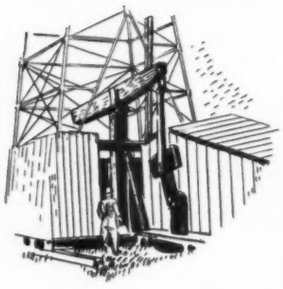

When you specify Pittsburgh Seamless you are not experimenting with an untested product. Steel that withstands the rigorous processing to which it is subjected in the making of Pittsburgh Seamless is steel that will function in any service without prospect of failure. When a Pittsburgh Seamless tube has been completed, it has already been through its most severe test. Rigid inspections from time to time during process of manufacture confirm its flawless perfection. Wide acceptance of Pittsburgh Seamless in the oil country testifies eloquently to its dependability. Ample manufacturing facilities enable us to provide prompt service.

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2 V·8 ENGINE SIZES

85 horsepower for high speeds or heavy duty

60 horsepower for light delivery service

CHOICE OF POWER TO FIT YOUR NEEDS

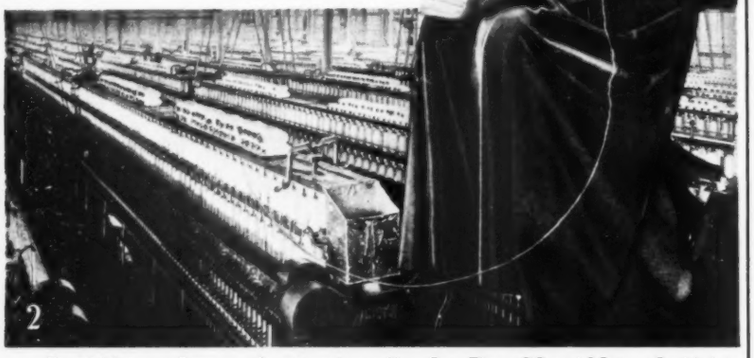
With these two great V-8 engines, Ford offers a full line of optional equipment to apply power with greatest economy and to meet individual load requirements. These options make many combinations available, one of which will do your hauling or delivery job at lowest cost. No compromise truck can give you such economy.

In addition, Ford introduces the most advanced style in truck design . . . and many other features that assure greater economy and longer life. Get the facts about this new specialized transportation from your Ford dealer. Call him today and set a date for an "on-the-job" test. • Convenient, economical terms through the Authorized Ford Finance Plans of the Universal Credit Company.

1937 FORD V·8 TRUCKS

MATCHING THE HIGHEST IN QUALITY . . . SELLING WITH THE LOWEST IN PRICE

Charlotte Henry, featured in the Republic Picture, "Hearts in Bondage", helps popularize crocheted cotton bedspreads. This is gratifying to...



. . Textiles, Inc., Gastonia, N. C. The 26 mills of this concern, together with Appleton Mills and . . .

. . Orr Cotton Mills of Anderson, S. C. are among the great textile plants which use Sinclair lubricants throughout. Sinclair's position as America's foremost company in the field of lubrication benefits . . .

. . Sinclair distributors, jobbers and dealers. For details 'phone the local Sinclair office or write to Sinclair Refining Company (Inc.), 630 Fifth Ave., New York City.

THE WOLCOTT BUILDING, HUTCHINSON, KANSAS

The Most Up-to-Date Office Building

In the Heart of Kansas' Greatest Oil Development

The Wolcott Building, now being constructed, will be fire-proof with verde antique marble, Indiana limestone and brick exterior finish, and will have *all* the following new and modern features:

"Carrier Weathermakers"—Concealed radiators will furnish fresh air from top of building, tempered humidified and cooled all year round. Individual room control.

Otis High-Speed Elevators—Large and roomy with micro-leveling. 24-hour service.

Concealed Wiring in baseboards throughout building.

Natural Gas and Compressed Air available in each suite.

Latest Efficiency Radio Aerial on roof with hook-up on each floor.

Tennessee Marble throughout arcade on main floor.

White Metal Finish throughout building; all trim including Cutler mail chute and elevator cars. Metal venetian blinds.

Ready for occupancy about April 15th

For information and floor plans apply to

MAHLON ELY, *Agent*
HUTCHINSON, KANSAS

Hutchinson—33,000 population; on main lines of two transcontinental railroads; fine highways to all parts of Western Kansas; excellent schools; pure water; good housing and living conditions—a city that welcomes the oil industry.

Our Annual Foreign-Language EXPORT ISSUE

A Foreign-Language Catalog of American Oil Equipment

CLOSES DEC. 14

40% of World's Oil Now Produced Abroad!

The forward-looking U. S. manufacturer of Oil Equipment will not ignore the GROWING foreign market.

In Oil Equipment—as in some other commodities—the United States now has a tremendous advantage in the export market, due to this country's long world-dominance of the industry. This present advantage can be *held*, despite the fact that many foreign countries are becoming more "oil independent." Today 40% of the world's Oil Production—30% of its Refining—50% of known Oil Reserves—are abroad. American manufacturers continue to lead in the development of oil field equipment and operators throughout the world look to them to solve their operating problems and furnish equipment to cut costs and increase production.

NEARLY 50% OF FOREIGN BUYERS FOREIGN-LANGUAGE-SPEAKING

A survey made by The Oil and Gas Journal this year showed conclusively that nearly 50% of foreign oil equipment buyers habitually speak Spanish or French and prefer catalogs in these languages instead of English.

We are consequently making our annual "Foreign-Language Issue"—now 4 years old—in reality a 3-language catalog of leading American oil equipment. The foreign section, this year, will dominate the issue. Leading manufacturers are taking enough space to publish effective condensed catalogs of their lines. They realize that this is the only issue of a leading American oil journal appearing in foreign languages, and that the foreign-language-speaking oil men of the world will use it as a buying guide for an entire year.

2,000 FOREIGN CIRCULATION

Foreign circulation will be very thorough. We maintain accurate, up-to-the-minute lists of all key oil men in foreign countries, and those not already on our list of paid subscribers will be sent a copy of this special issue. In this way more than 2,000 copies will be mailed abroad. Each copy will, of course, be seen by many readers.

OVER 2,000 Copies to Foreign Fields

ADVERTISING PLAN REVISED

The advertising plan for this issue has been completely revised, this year. The outstanding feature of our Foreign Issue will be a special section in which all editorial material and advertising will appear in 3 languages.

RATES, in the foreign-language section, will be our regular card rates (or the advertiser's contract rate) plus $50 per page, $25 per half-page, $33.34 per two-thirds page and $16.67 per third-page. This service charge will merely cover our extra costs for having each advertisement translated into Spanish and French, set in proper type and electroplated—and for the extra foreign circulation.

COPY DIRECTIONS

In preparing copy for your advertisement in the foreign-language section, lay the advertisement out in any manner you desire but wherever text is indicated, including captions under cuts, allow for enough space to permit us to add the Spanish and French type. We reserve the right to edit copy to fit the space.

CLOSES DECEMBER 14th
ISSUED DECEMBER 31st, 1936

Make space reservations immediately. Then get copy to us as quickly as possible. Early receipt of copy will insure favorable location.

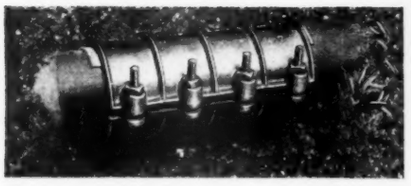
The basic requirement in cultivating the foreign market is to place a handy catalog of your line in the hands of each foreign buyer in the language he prefers. This issue offers the efficient, economical way to do this. Reserve adequate space today.

THE OIL AND GAS JOURNAL

E. Klappenbach, Advertising Manager, 114 W. 2nd St., Tulsa, Okla.

NEW YORK CITY	CLEVELAND, OHIO	CHICAGO, ILL.	TULSA, OKLA.	HOUSTON, TEX.	LOS ANGELES, CALIF.
C. L. Cain	Howard Markt	C. R. Farmer	Kenneth Langley	Wayne Rives	J. H. Tinkham
415 Lexington Ave.	802 Leader Bldg.	616 S. Michigan	114 W. 2nd St.	809 Sterling Bldg.	1406 S. Grand Ave.

STOP
PIPE LINE LEAKS INSTANTLY— PERMANENTLY



● **SKINNER PIPE LINE CLAMP** is an extra-long edition of the famous Emergency Pipe Clamp — the standard clamp of the oil and gas industry for 37 years. Extra length takes care of long splits or very bad corrosion. An absolutely permanent repair. Stops leaks in pipe lines instantly . . . put on in a minute by anyone . . . no pressure too high. Made of malleable iron, heavily enamelled to resist rust, and equipped with large cadmium plated steel bolts, and rubber gasket. Note raised lugs for wrench convenience, and hinge along other side for ease in putting on. For all pipe sizes ¾" to 7" O. D. Lengths 7½" to 15". Stocked by oil supply stores everywhere.

SKINNER PIPE LINE CLAMP

M. B. SKINNER CO. *Est. 1898* **SOUTH BEND, IND.**

"No cement can do this job"—

OPERATOR SAID

BUT UNAFLO MADE PERFECT SHUT-OFF

IT was a tough test for an oil well cement. Well depth was 8700 feet—the hole was tight, and 37 degrees off vertical. Temperature was 206° F. "No oil well cement can do a satisfactory job here," said the operator, "because the casing will groove the lower wall of the hole and the cement will be on the upper side of the casing." But UNAFLO made a perfect shut-off. Now this operator uses UNAFLO for every repair job and for every production string.

On *your* next job, try UNAFLO. It flows easier—sets slower—has a safety factor adequate to protect your well investment!

UNIVERSAL ATLAS CEMENT CO.

United States Steel U.S. STEEL *Corporation Subsidiary*

AMICABLE BUILDING, WACO, TEXAS

KANSAS CITY • TULSA • OKLAHOMA CITY

1 Gives you more time to get it down.
2 Remains fluid longer.
3 Follows irregularities of well bore and casing.
4 Hardens thoroughly with high density after it is placed.
5 Displaces contaminating elements in the well.
6 Not stiffened by mud contamination.
7 Not stiffened by salt water contamination.
8 Sets satisfactorily in sulphate water.
9 Requires no ice.
10 Makes squeeze and plug-back jobs easier, surer and more successful.

U-8

UNAFLO

FOR SAFE DEEP-WELL CEMENTING

J&L Seamless Steel Boiler Tubes

"I use J & L Seamless Steel Boiler Tubes because they are made of good, soft, easy-working steel. They stay put when expanded, flared and beaded-in."

That is why J & L Seamless Steel Boiler Tubes save time and money on any boiler tube installation. Their easy workability is a direct result of the effective forging action which characterizes the Jones & Laughlin method of manufacture.

There can be no failure at—or near—a weld, because there are no welds.

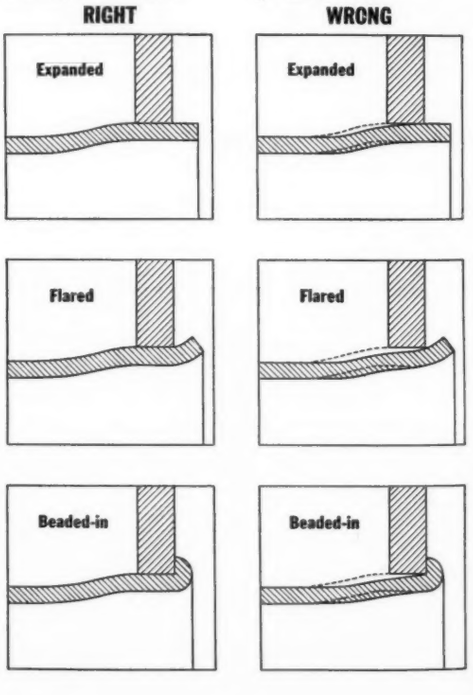
J & L Boiler Tubes meet all standard specifications and they are widely used in both fire tube and water tube types of boilers.

Specify J & L Seamless Steel Boiler Tubes. Their quick, easy installation and long, trouble-free service will save money for you. Order from your J & L Boiler Tube distributor.

Why High Ductility in Boiler Tubes is Vitally Important

When expanded, flared and beaded-in, tubes of high ductility make a snug tight joint, and "stay put" permanently. See diagrams below.

If not sufficiently ductile, tubes tend to pull away from the boiler plate, requiring longer time for working, and leave imperfect joints.



J & L manufactures a complete line of seamless and welded steel tubular products, including seamless pressure tubes, condenser tubes and heat exchanger tubes—also flange steel plates and firebox steel.

J&L STEEL

SEND FOR FREE COPY OF J&L SEAMLESS STEEL BOILER TUBE BULLETIN

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

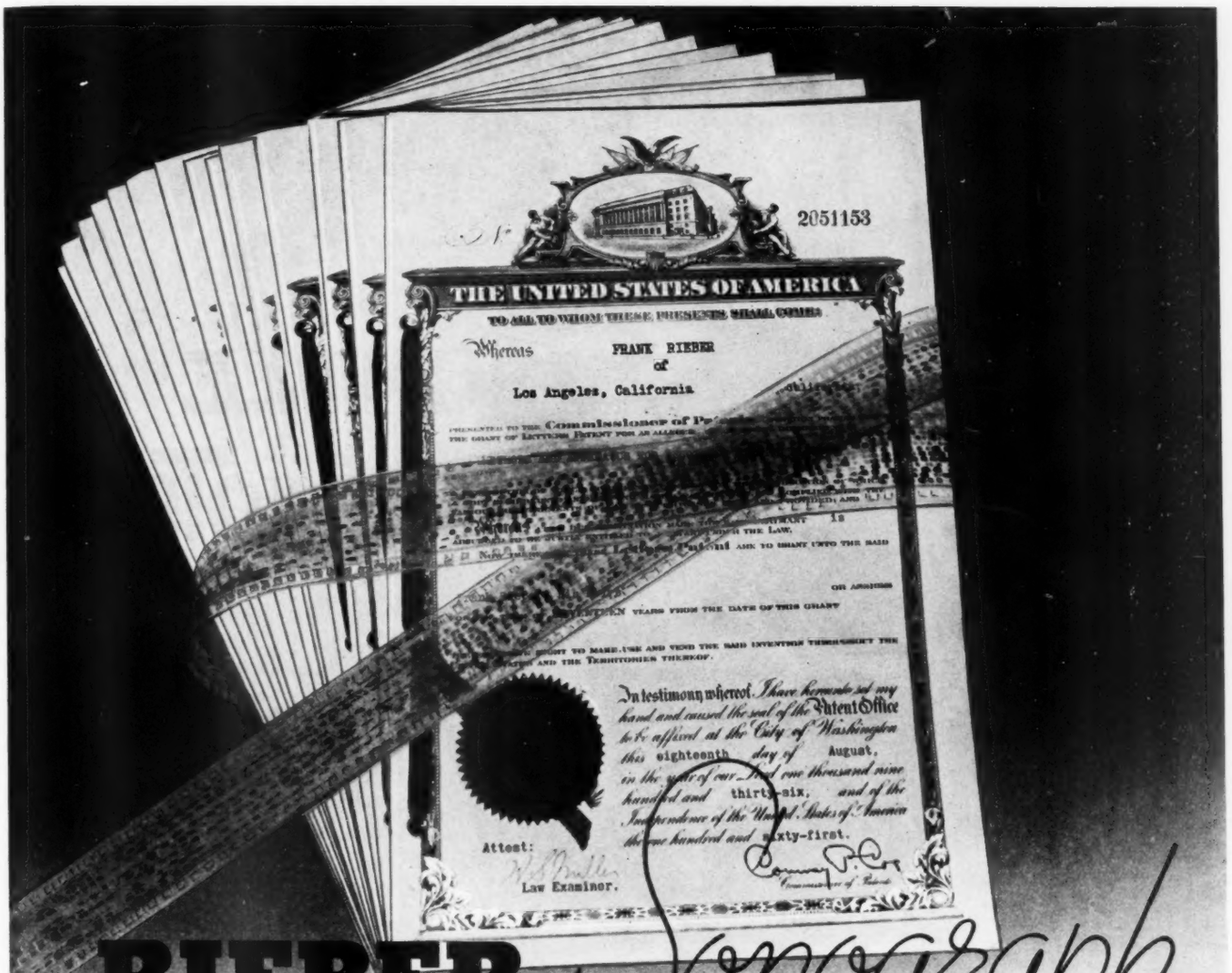
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

Sales Offices: Atlanta Boston Buffalo Chicago Cincinnati Cleveland Dallas Denver Detroit Erie Houston Los Angeles Memphis Milwaukee Minneapolis New Orleans New York Philadelphia Pittsburgh Seattle St. Louis San Francisco Tulsa

Warehouses: CHICAGO CINCINNATI DETROIT MEMPHIS NEW ORLEANS NEW YORK (Long Island City)* PITTSBURGH

*Operated by National Bridge Works Division of Jones & Laughlin Steel Service, Inc.

Canadian Representatives: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A., and Toronto, Ont., Canada


2051153
THE UNITED STATES OF AMERICA
Whereas
FRANK RIEBER
of
Los Angeles, California
In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington this eighteenth day of August, in the year of our Lord one thousand nine hundred and thirty-six, and of the Independence of the United States of America the one hundred and sixty-first.
Attest:
Law Examiner.

RIEBER Sonograph

BRINGS SOUND - RECORDING SCIENCE TO GEOPHYSICAL EXPLORATION

FULLY PATENTED

Geophysical exploration has been revolutionized by the Rieber Sonograph, Photoelectric Analyzer and operating methods.

Recorded in the field photographically on ten separate sound tracks on a film, the multitude of reflections sent back from complex structures are accurately cataloged as to direction and instant of arrival. When sorted out and transcribed by the Photoelectric Analyzer, these reflections present a story of earth structures for study by the geologist with all of the hitherto unobtainable detail and fidelity made possible by modern sound recording methods.

The Rieber method of geophysical exploration, recording earth reflections on sound film, and the apparatus used are fully protected by the following U. S. patents. Other patents are pending.

1,776,009	1,782,445	1,867,098	1,902,184
1,780,567	1,827,371	1,902,183	2,051,153

The Rieber Sonograph works successfully through fan deposits and abnormal surface conditions. It accurately defines relatively steep or recurrently folded structures, faulting of various kinds, over-lapping or buttress sands, truncated beds, and flat-lying beds with irregular sedimentation.

A limited number of field parties is now available for work in California, the mid-Continent and Gulf Coast.

RIEBER Laboratories

1007 BROXTON AVENUE • LOS ANGELES, CALIFORNIA

HOUSTON, TEXAS

HUMBLE THREDKOTE

(Reg. U. S. Pat. Off.)

Applying Humble Thredkote to the threads of 7" casing to prevent rust; when this casing is assembled, the Thredkote will lubricate the threads and seal the joint.

Gives

3-point service in the field

1. On the rack—prevents rust.
2. On the derrick floor—speeds assembly.
3. In the hole—seals the joint.

Try Humble Thredkote on your job. Order from any Humble Bulk Station, or write direct to:

HUMBLE OIL & REFINING COMPANY
HOUSTON, TEXAS

One Tru-Lay *Preformed* Rotary Line

—is all that is necessary to prove to you the real economy of Preformed because

. . . it is far easier and faster to string;

. . . it doesn't whip, even at high speeds;

. . . it spools evenly and tightly even when under the weight of the idle block;

. . . it resists kinking;

. . . it will cut down your round-trip time;

. . . it will last longer.

And the longer you use TRU-LAY Preformed the more you will appreciate its uniformity and consistency of service, its complete relaxation based on preformation.

Try just *one* TRU-LAY Preformed line. Specify the "IPS" (Improved Plow Steel) Grade. You will know it by its Emerald Strand—and you will find by its use that green signifies safety not only to men and equipment but to your pocketbook as well.

GREEN SIGNIFIES SAFETY

AMERICAN CABLE COMPANY, Inc.

Wilkes-Barre, Pennsylvania

An Associate Company of the American Chain Company, Inc.

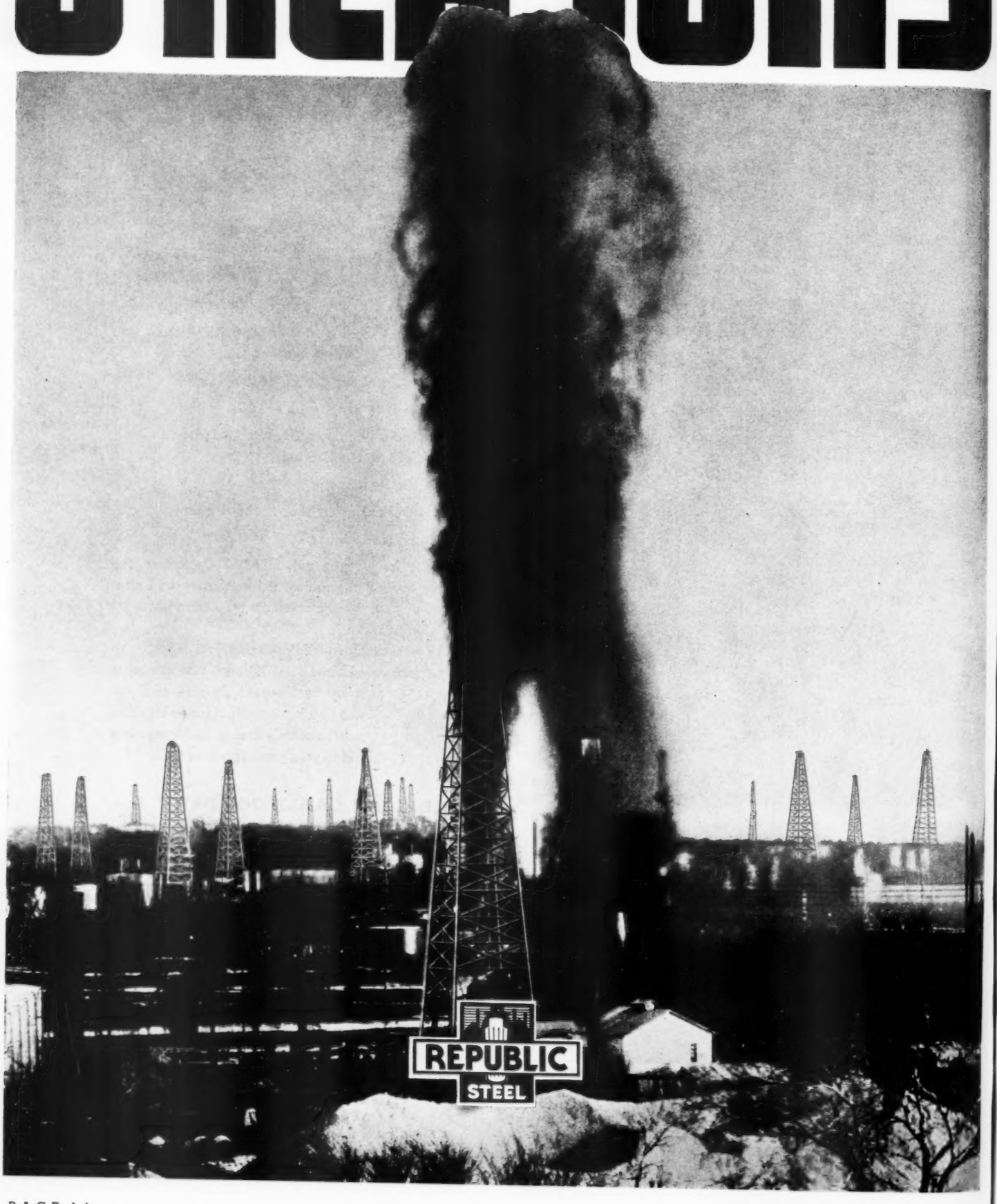
IN BUSINESS FOR YOUR SAFETY

Branches or Distributors in all Oil Field Centers

TRU-LAY *Preformed* Rotary Lines

ALL AMERICAN CABLE COMPANY LINES MADE OF IMPROVED PLOW STEEL ARE IDENTIFIED BY THE EMERALD STRAND

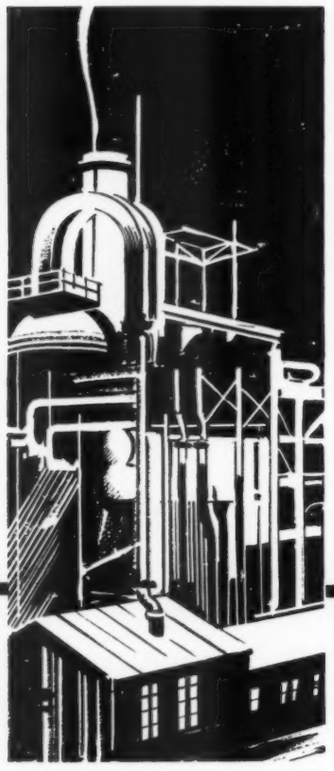
3 REASONS



REPUBLIC CASING

Republic Steel
CORPORATION
GENERAL OFFICES · · CLEVELAND, OHIO

When writing Republic Steel Corporation for further information, please address Department OG.



» » » SCIENTIFIC ADVANCEMENT

During the past several years, leading refiners have been materially aided in the scientific advancement of production methods by the employment of SUPER FILTROL, the activated bleaching clay . . . a clay artificially activated *under rigid protective patents.*

Every sale of SUPER FILTROL is accompanied by a licensed right covering its use under patents of Contact Filtration Company relating to clarification, neutralization and decolorization of petroleum oil.

The benefit of our technical staff is available at all times to those interested. Inquiries and requests for samples will be given immediate attention.

FILTROL *Corporation*

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